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A. B., Yale College, 1852, and A. M., 1855; LL. D., Harvard University and St. John's College, 1876; Professor in Yale College, 1863-72; President of the University of California, 1872-75.

Basil L. Gildersleeve, Ph.D., LL.D., *Professor of Greek.* 253 St. Paul St.

A. B., Princeton College, 1849, and A. M., 1852; Ph. D., University of Göttingen, 1853; LL. D., College of William and Mary, 1869; Professor of Greek in the University of Virginia, 1856-76; Professor of Latin in the University of Virginia, 1861-66; *Editor of the American Journal of Philology.*

H. Newell Martin, Dr.Sc., A.M., *Professor of Biology, and Director of the Biological Laboratory.* 221 St. Paul St.

M. B., University of London, 1871, and Dr. Sc., 1872; A. B., University of Cambridge, 1874, and A. M., 1877; Fellow, and late Lecturer on Natural History in Christ College, Cambridge; Fellow of University College, London; M. D. (Hon.), University of Georgia, 1881; *Editor of Studies from the Biological Laboratory.*

Charles D. Morris, A.M., *Collegiate Professor of Latin and Greek.* 158 N. Howard St.

A. B., Lincoln College, Oxford, 1849, A. M., and Fellow of Oriel College, Oxford, 1852; Professor in the University of New York, 1875-76.

Ira Remsen, M.D., Ph.D., *Professor of Chemistry, and Director of the Chemical Laboratory.* 213 St. Paul St.

College of the City of New York; M. D., College of Physicians and Surgeons, N. Y., 1867; Ph. D., University of Göttingen, 1870; Professor of Chemistry in Williams College, 1872-76, and previously Assistant in Chemistry in the University of Tübingen; *Editor of the American Chemical Journal.*

Henry A. Rowland, Ph.D., *Professor of Physics, and Director of the Physical Laboratory.* 14 Cathedral St.

C. E., Rensselaer Polytechnic Institute, Troy, 1870; Assistant Professor in the same, 1872-75; Ph. D., Johns Hopkins University, 1880.

J. J. Sylvester, F.R.S., D.C.L., *Professor of Mathematics.* Mt. Vernon Hotel.

A. M., University of Cambridge; F. R. S., London and Edinburgh; Corresponding Member, Institute of France; Member, Academy of Sciences in Berlin, Göttingen, Naples, Milan, St. Petersburg, etc.; LL. D., University of Dublin, University of Edinburgh; D. C. L., University of Oxford; Honorary Fellow of St. John's College, Cambridge; late Professor of Mathematics in the Royal Military Academy, Woolwich; Copley Medalist, Royal Society, London, 1880; *Editor of the American Journal of Mathematics.*

Paul Haupt, Ph.D., *Professor (elect) of the Shemitic Languages.*

Now of the University of Göttingen; he will begin his lectures in Baltimore at the beginning of the session of 1883-4.

GEORGE W. CABLE, *Lecturer for the current year on English Literature.*

HIRAM CORSON, A.M., LL.D., *Lecturer on English Literature.*

Professor of Anglo-Saxon and English Literature in the Cornell University.

F. SEYMOUR HADEN, F.R.C.S., *Lecturer for the current year on Etchers and Etching.*

Fellow of Royal College of Surgeons (England), 1857.

G. STANLEY HALL, PH.D., *Lecturer on Psychology.* 132 W. Madison St.

A. B., Williams College, 1867, and A. M., 1870; Ph. D., Harvard University, 1878; Lecturer in Harvard and Williams Colleges.

J. RENDEL HARRIS, A.M., *Lecturer on New Testament Greek.* 96 Division St.

A. B., University of Cambridge, 1874, and A. M., 1877; Fellow, and late Lecturer and Librarian of Clare College, Cambridge.

JAMES A. HARRISON, A.M., *Lecturer for the current year on English Literature.*

Professor of Modern Languages, English, etc., in Washington and Lee University.

GEORGE S. MORRIS, A.M., PH.D., *Lecturer on the History of Philosophy.* 132 W. Madison St.

A. B., Dartmouth College, 1861, and A. M., 1864; Ph. D., University of Michigan, 1881; Professor of Logic, Ethics, and the History of Philosophy in the University of Michigan.

CHARLES S. PEIRCE, A.M., S.B., *Lecturer on Logic.* St. James Hotel.

A. B., Harvard University, 1859, A. M., and S. B., 1863; of the U. S. Coast and Geodetic Survey.

LÉONCE RABILLON, BACH. ÈS LETT., *Lecturer on French Literature.* 69 Park Av.

Bach. ès Lettres, Université de France, 1832, and Licencié en Droit, 1836.

HERBERT B. ADAMS, PH.D., *Associate in History.* 41 Cathedral St.

A. B., Amherst College, 1872; Ph. D., University of Heidelberg, 1876; *Editor of University Studies in Historical and Political Science.*

MAURICE BLOOMFIELD, PH.D., *Associate in Sanskrit.* 123 W. Madison St.

A. M., Furman University, 1877; Ph. D., Johns Hopkins University, 1879.

———————, *Associate in German.*

[On account of the resignation of Mr. Brandt, the duties of this chair have been temporarily assumed by Dr. Wood and Professor Raddatz].

WILLIAM K. BROOKS, PH.D., *Associate in Biology, and Director of the Chesapeake Zoölogical Laboratory.* 181 N. Calvert St.

A. B., Williams College, 1870; Ph. D., Harvard University, 1875.

WILLIAM HAND BROWNE, M.D., *Librarian, and Examiner in English.* 2 Huntingdon Av.

M. D., University of Maryland, 1850.

THOMAS CRAIG, PH. D., *Associate in Applied Mathematics.* 139 St. Paul St.

C. E., Lafayette College, 1875; Ph. D., Johns Hopkins University, 1878.

A. MARSHALL ELLIOTT, A. M., *Associate in Romance Languages.* 241 N. Calvert St.

A. B., Haverford College, 1866, and A. M., 1878; A. B., Harvard University, 1868.

RICHARD T. ELY, PH. D., *Associate in Political Economy.* 288 Madison Av.

A. B., Columbia College, 1876, and A. M., 1879; Fellow of Columbia College, 1876-79; Ph. D., University of Heidelberg, 1879.

FABIAN FRANKLIN, PH. D., *Associate in Mathematics.* 211 Madison Av.

Ph. B., Columbian University, 1869; Ph. D., Johns Hopkins University, 1880.

CHARLES S. HASTINGS, PH. D., *Associate in Physics, Sub-Director of the Physical Laboratory, and Lecturer on Solar Physics.* 8 Denmead St.

Ph. B., Yale College, 1870, and Ph. D., 1873; Holder of the "Tyndall Scholarship" in Paris, 1875.

HARMON N. MORSE, PH. D., *Associate in Chemistry, and Sub-Director of the Chemical Laboratory.* 12 Denmead St.

A. B., Amherst College, 1873; Ph. D., University of Göttingen, 1875; Instructor in Chemistry at Amherst College, 1875-76.

CHARLES F. RADDATZ, *Examiner in German.* 228 Argyle Av.

Professor in the Baltimore City College.

WILLIAM T. SEDGWICK, PH. D., *Associate in Biology.* 234 Linden Av.

Ph. B., Yale College, 1877; Ph. D., Johns Hopkins University, 1881.

WILLIAM E. STORY, PH. D., *Associate in Mathematics.* 256 N. Calvert St.

A. B., Harvard University, 1871; Ph. D., University of Leipsic, 1875; Tutor of Mathematics at Harvard University, 1875-76.

PHILIP R. UHLER, *Associate in Natural History.* 218 W. Hoffman St.

Librarian of the Peabody Institute, and President of the Maryland Academy of Sciences.

MINTON WARREN, PH. D., *Associate in Latin.* 139 St. Paul St.

A. B., Tufts College, 1870; Ph. D., University of Strassburg, 1879.

HENRY WOOD, PH. D., *Associate in English.* 67 Oak St.

A. B., Haverford College, 1869; Ph. D., University of Leipsic, 1879.

JAMES W. BRIGHT, PH. D., *Assistant in German.* 33 Garden St.

A. B., Lafayette College, 1877, and A. M., 1880; Ph. D., Johns Hopkins University, 1882.

R. DORSEY COALE, PH. D., *Assistant in Chemistry.* 215 Madison Av.

Ph. D., Johns Hopkins University, 1881.

EDWARD M. HARTWELL, M. D., PH. D., *Instructor in Physical Culture.* 132 W. Madison St.

A. B., Amherst College, 1873, and A. M., 1876; Ph. D., Johns Hopkins University, 1881; M. D., Miami Medical College, 1882.

J. FRANKLIN JAMESON, PH. D., *Instructor in History.* 54 McCulloh St.

A. B., Amherst College, 1879; Ph. D., Johns Hopkins University, 1882.

PHILIPPE B. MARCOU, A.M., *Assistant in French.* 139 St. Paul St.
A. B., Harvard University, 1876, and A. M., 1879.

HUGH NEWELL, *Instructor in Drawing.* 99 N. Charles St.
Instructor in Drawing in the Maryland Institute.

HARRY F. REID, A.B., *Assistant in Physics.* 75 Mt. Vernon Place.
A. B., Johns Hopkins University, 1880.

EDWARD H. SPIEKER, PH. D., *Assistant in Greek and Latin.* 123 N. Paca St.
A. B., Johns Hopkins University, 1879, and Ph. D., 1882.

CHARLES L. WOODWORTH, JR., *Instructor in Elocution.* 181 Linden Av.
Amherst College; Boston University School of Oratory, 1875.

FELLOWS BY COURTESY.

In addition to those who have been Fellows, the University enrolls, as Fellows by Courtesy, other gentlemen holding academic stations elsewhere who have been resident in Baltimore for the prosecution of advanced studies, during the whole or a considerable part of the current year.

WILLIAM H. CARPENTER. Utica, N. Y. *The Brexton.*
Ph. D., University of Freiburg, 1881; Lecturing here during a part of the year, and afterwards at the Cornell University. *Scandinavian Languages.*

WILLIAM T. COUNCILMAN. Baltimore. 126 *W. Biddle St.*
M. D., University of Maryland, 1878; formerly Assistant in the Biological Laboratory here. *Biology.*

JOHN P. FINLEY. Washington, D. C. 211 *N. Howard St.*
S. B., Michigan Agricultural College, 1873, and S. M., 1881; Sergeant U. S. Signal Corps. *Physics*

BENJAMIN I. GILMAN. New York City. (A)
A. B., Williams College, 1872, and A. M., 1880. *Logic.*

THOMAS W. MILLS. Montreal, Quebec. 116½ *N. Howard St.*
A. B., University of Toronto, 1871, and A. M., 1872; M. D., McGill University, 1878; L. R. C. P. (Eng); Demonstrator of Physiology and Histology at McGill University. *Biology.*

BERNARD F. O'CONNOR. Paris, France. 160 *W. Biddle St.*
Bach. ès Lettres, Université de France, 1874; Ph. D., Johns Hopkins University, 1883; Lecturing here during the last half of the year. *Romance Languages.*

HENRY L. OSBORN. Madison, N. J. 92 *Saratoga St.*
A. B., Wesleyan University, 1878. *Biology.*

HENRY A. SHORT. New York City. 143 *St. Paul St.*
A. B., Columbia College, 1880; Fellow of Columbia College. *Greek.*

MORRISON I. SWIFT. Ashtabula, O.
A. B., Williams College, 1879; Instructor in Philosophy at Hobart College. *Philosophy.*

A—Absent.

ALBERT H. TUTTLE. Columbus, O. 96 *Lanvale St.*
S. B., Pennsylvania State College, 1868; Professor of Zoölogy at Ohio State University. *Biology.*

B. LAWTON WIGGINS. Sewanee, Tenn. 16 *McCulloh St.*
A. B., University of the South, 1880, and A. M., 1882; Professor of Ancient Languages at the University of the South. *Greek.*

GEORGE H. WILLIAMS. Utica, N. Y. 43 *Cathedral St.*
A. B., Amherst College, 1878; Ph. D., University of Heidelberg, 1882. *Mineralogy.*

EDMUND B. WILSON. Geneva, Ill. (A)
Ph. B., Yale College, 1878; Ph. D., Johns Hopkins University, 1881; now studying in the Marine Laboratory at Naples under Dr. Dohrn. *Biology.*

FELLOWS.

WILLIAM J. ALEXANDER. Hamilton, Ont. 71 *McCulloh St.*
A. B., University of London, 1876. *Greek.*

JAMES M. CATTELL. Easton, Pa. 209 *W. Biddle St.*
A. B., Lafayette College, 1880. *Philosophy.*

ELLERY W. DAVIS. Baltimore. 28 *McCulloh St.*
S. B., University of Wisconsin, 1879. *Mathematics.*

DAVID T. DAY. Baltimore. 207 *Madison Av.*
A. B., Johns Hopkins University, 1881. *Chemistry*

WILLIAM C. DAY. Baltimore. 207 *Madison Av.*
A. B., Johns Hopkins University, 1880. *Chemistry.*

HENRY H. DONALDSON. New York City. 123 *W. Madison St.*
A. B., Yale College, 1879. *Biology.*

WILLIAM P. DURFEE. Berkeley, Cal. 58 *McCulloh St.*
A. B., University of Michigan, 1876. *Mathematics.*

GEORGE S. ELY. Fredonia, N. Y. 58 *McCulloh St.*
A. B., Amherst College, 1878. *Mathematics.*

ALFRED EMERSON. Greencastle, Pa. 218 *N. Carrollton Av.*
Ph. D., University of Munich, 1881. *Greek.*

WILLIAM S. FLEMING. Wetumpka, Ala. 217 *N. Howard St.*
A. B., Davidson College, 1878. *Greek.*

ARTHUR L. FROTHINGHAM, Rome, Italy. (A)
Shemitic Languages.

HENRY R. GOODNOW. Brooklyn, N. Y. 209 *N. Howard St.*
A. B., Amherst College, 1878. *Physics.*

ELGIN R. L. GOULD. Oshawa, Ont. 238 *Linden Av.*
A. B., Victoria University, 1881. *History.*

ARTHUR S. HATHAWAY. Decatur, Mich. 205 *N. Howard St.*
S. B., Cornell University, 1879. *Mathematics.*

A—Absent.

WILLIAM H. HOWELL. Baltimore. 433 *N. Mount St*
A. B., Johns Hopkins University, 1881. *Biology.*

EDWARD H. KEISER. Allentown, Pa. 106 *W. John St.*
S. B., Swarthmore College, 1880, and S. M., 1881. *Chemistry.*

ARTHUR L. KIMBALL. Plainfield, N. J. 91 *Saratoga St.*
A. B., Princeton College, 1881; Fellow in Science, Princeton College, 1881-82. *Physics.*

C. HERSCHEL KOYL, Cobourg, Ont. 125 *Park Av.*
A. B., Victoria University, 1877. *Physics.*

HENRY N. STOKES. Moorestown, N. J. 24 *McCulloh St.*
S. B., Haverford College, 1878. *Biology.*

GRADUATE STUDENTS.

WILLIS A. ANDERSON. Kalamazoo, Mich. 286 *Madison Av.*
A. B., Kalamazoo College, 1882. *Greek and Philosophy.*

FRANK ANGELL. Washington, D. C. *Washington, D. C.*
S. B., University of Vermont, 1878. *Physics.*

WILLIAM M. ARNOLT. New Brunswick, N. J. 213 *W. Biddle St.*
Stuttgart Gymnasium, 1878; B. D., Rutgers Theological Seminary, 1882. *Philology.*

EDWARD BARNES. Northboro, Mass. 28 *McCulloh St.*
S. B., Worcester Free Institute, 1879. *Mathematics.*

THOMAS M. BEADENKOPF. Baltimore. 50 *N. Broadway.*
A. B., Johns Hopkins University, 1880. *Greek and Hebrew.*

EDWARD W. BEMIS. Springfield, Mass. 40 *McCulloh St.*
A. B., Amherst College, 1880. *History.*

HENRY G. BEYER. U. S. N. 125 *Park Av.*
M. D., Bellevue Hospital Medical College, 1876; M. R. C. S. (Eng.); Passed Assistant Surgeon, U. S. N. *Biology.*

GUSTAV BISSING. Baltimore. 264 *W. Lombard St.*
A. B., Johns Hopkins University, 1882. *Mathematics.*

JOHN C. BLAND. Philadelphia, Pa. *Philadelphia.*
C. E; Member Am. S. C. E. *Mathematics.*

WILLIAM S. BOYD, JR. Kingstree, S. C. 54 *McCulloh St.*
A. B., Davidson College, 1882. *Chemistry.*

DEWITT B. BRACE. Lockport, N. Y. 106 *W. John St.*
A. B., Boston University, 1881, and A. M., 1882. *Physics.*

HOWARD W. CALDWELL. Lincoln, Neb. 181 *Linden Av.*
Ph. B., University of Nebraska, 1880. *History.*

JOSEPH V. COLLINS. Wooster, O. 28 *McCulloh St.*
Ph. B., University of Wooster, 1879. *Mathematics.*

BUEL P. COLTON. Princeton, Ill. 118 *W. Biddle St.*
A. B., Amherst College, 1874. *Biology.*

HERBERT W. CONN. Fitchburg, Mass. 181 *N. Calvert St.*
A. B., Boston University, 1881. *Biology.*

ALFRED D. CROWE. Baltimore. 115 *W. Townsend St.*
A. B., Geneva College, 1874. *New Testament Greek, etc.*

JOHN DEWEY. Burlington, Vt. 91 *Saratoga St.*
A. B., University of Vermont, 1879. *Philosophy.*

FRANK DONALDSON, Baltimore. 108 *Park Av.*
A. B., Harvard University, 1879; M. D., University of Maryland, 1883. *Biology.*

JAMES R. DUGGAN. Macon, Ga. 241 *N. Eutaw St.*
A. B., Mercer University, 1877, and A. M., 1880; M. D., Jefferson Medical College, 1879. *Chemistry and Biology.*

LOUIS DUNCAN. Baltimore. 10 *N. Carey St.*
U. S. Naval Academy, 1880. *Physics and Chemistry.*

ALBERT E. EGGE. Decorah, Iowa. 150 *N. Eutaw St.*
A. B., Norwegian Luther College, 1879. *English.*

JOHN S. ELY. New York City. 132 *W. Madison St.*
Ph.B., Yale College, 1881. *Biology.*

GUSTAV A. EVENSON. Iola, Wis. 150 *N. Eutaw St.*
A. B., Norwegian Luther College, 1880. *Teutonic Languages.*

LEBBEUS B. FIFIELD, Kearney, Neb. 182 *N. Eutaw St.*
A. B., Amherst College, 1853, and A. M., 1871, *French and German.*

JOHN A. FISHER. Baltimore. 88 *Division St.*
Ph.B., Illinois Wesleyan University, 1880. *History and Philosophy.*

LOUIS GARTHE. Baltimore. 98 *Hill St.*
A. B., Johns Hopkins University, 1882. *Modern Languages.*

JOHN H. GILLESPIE. Jersey City Heights, N. J. 19 *McCulloh St.*
A. B., Rutgers College, 1882. *Greek.*

CLAYTON C. HALL. Baltimore. 142 *Park Av.*
Physics.

RICHMOND HARDING. Charlotte, N. C. 217 *N. Howard St.*
A. B., Davidson College, 1880. *Greek.*

HOMER W. HILLYER. Waupun, Wis. 178 *W. Biddle St.*
S. B., University of Wisconsin, 1882. *Chemistry.*

ANDREW HOLSTAD. Decorah, Iowa. 172 *W. Biddle St.*
A. B., Norwegian Luther College, 1881. *Greek and Latin.*

CHARLES S. HOWE. Boston, Mass. 8 *McCulloh St.*
S. B., Mass. Agricultural College, 1878. *Physics and Mathematics.*

EDWARD INGLE. Baltimore. 358 *Linden Av.*
A. B., Johns Hopkins University, 1882. *History.*

HANS C. G. JAGEMANN. Naumburg, Germany. 255 *N. Eutaw St.*
Naumburg Gymnasium, 1876. *Modern Languages.*

JOSEPH JASTROW. Philadelphia, Pa. 256 *W. Lombard St.*
A. B., University of Pennsylvania, 1882. *Philosophy and Logic.*

OLIVER P. JENKINS. Moore's Hill, Ind. 118 *W. Biddle St.*
A. B., Moore's Hill College, 1869, and A. M., 1872. *Biology.*

ROBERT W. JOHNSON. Baltimore. 70 *Cathedral St.*
A. B., Princeton College, 1876; M. D., University of Pennsylvania, 1879. *Biology.*

CHRISTOPHER JOHNSTON, JR. Baltimore. 82 *Franklin St.*
A. M., University of Virginia, 1879; M. D., University of Maryland, 1880. *Biology.*

JOHN C. JONES. Fulton, Mo. 16 *McCulloh St.*
A. B., Westminster College (Mo.), 1879. *Latin and Greek.*

FREDERIC S. LEE. Canton, N. Y. 92 *Saratoga St.*
A. B., St. Lawrence University (N.Y.), 1878, and A. M., 1881. *Biology.*

GUSTAV A. LIEBIG, JR. Baltimore. 307 *St. Paul St.*
A. B., Johns Hopkins University, 1882. *Physics.*

JOHN MACCLINTOCK. Millersburg, Ky. 241 *N. Eutaw St.*
A. B., Kentucky Wesleyan College, 1882. *History.*

IRWIN P. MCCURDY. Frederick. *Frederick.*
B. E., Indiana (Pa.) State Normal School, 1876, and M. E., 1878; A. B., Lafayette College, 1880. *English.*

JOHN N. MACKENZIE. Baltimore. 201 *N. Charles St.*
M. D., University of Virginia, 1876; M. D., University of New York, 1877. *Biology.*

C. W. EMIL MILLER. Baltimore. 306 *S. Sharp St.*
A. B., Johns Hopkins University, 1882. *Greek.*

PARK MORRILL. Loudon, N. H. *Academy Hotel.*
A. B., Amherst College, 1881; U. S. Signal Service. *Physics.*

J. SCOTT MURRAY, JR. Anderson, S. C. 286 *Madison Av.*
A. M., Furman University, 1878. *Languages.*

HENRY F. NACHTRIEB. St. Paul, Minn. 286 *Madison Av.*
S. B., University of Minnesota, 1882. *Biology.*

HENRY B. NIXON, Winfall, N. C. 28 *McCulloh St.*
University of North Carolina, 1878. *Mathematics.*

JAMES PAGE. Baltimore. 81 *W. John St.*
A. B., Johns Hopkins University, 1882. *Physics and Chemistry.*

ALBERT G. PALMER. Baltimore. 172 *McCulloh St.*
A. B., Johns Hopkins University, 1882. *Chemistry.*

ERNEST M. PEASE. Boulder, Colo. 181 *Linden Av.*
A. B., University of Colorado, 1882. *Latin.*

CLAPHAM PENNINGTON. Baltimore. 36 *W. Eager St.*
M. D., University of Maryland, 1882. *Chemistry and Biology.*

CHARLES A. PERKINS. Ware, Mass. 28 *McCulloh St.*
A. B., Williams College, 1879. *Physics.*

CAMERON PIGGOT. Baltimore. 67 *Frederick Av.*
M. D., University of Maryland, 1882. *Chemistry.*

B. JAMES RAMAGE. Newberry, S. C. 28 *McCulloh St.*
A. B., Newberry College, 1880. *History.*

FORREST L. ROBERTSON. Paris, Ky. 241 *N. Eutaw St.*
A. B., Kentucky Wesleyan College, 1882. *English.*

ADONIRAM J. ROBINSON. Baltimore. 192 *Mulberry St.*
A. B., Johns Hopkins University, 1881. *Philosophy.*

THOMAS RUSSELL. Washington, D. C. 71 *McCulloh St.*
U. S. Signal Service. *Physics.*

WALTER B. SCAIFE, Pittsburgh, Pa. 140 *Cathedral St.*
LL.B., University of Michigan, 1880. *History, etc.*

LOUIS H. SCHUBART. New York City. 173 *W. Lombard St.*
S. B., College of the City of New York, 1882. *Chemistry.*

WILLIAM H. SCHUERMANN. Cincinnati, O. 19 *McCulloh St.*
C. E., University of Cincinnati, 1881. *Mathematics.*

WILLIAM D. SEWALL. Bath, Me. 16 *McCulloh St.*
S. B., Worcester Free Institute, 1882. *History, etc.*

JOHN SIEBER. Baltimore. 173 *S. Wolfe St.*
A. B., German Wallace College (Ohio), 1881. *Philosophy and Greek.*

LEWIS T. STEVENS. Baltimore. 105 *Charles St. Av.*
A. B., Johns Hopkins University, 1882. *Biology.*

JAMES E. STOUT. Baltimore. 183 *Druid Hill Av.*
University of Virginia, 1869. *Latin and Greek.*

HUGH T. SUDDUTH. Cambridge, O. 71 *McCulloh St.*
A. M., Muskingum College, 1881. *English.*

WRIGHT I. SWEET, Dean's Corners, N. Y. *Reid's Hotel.*
C. E., Union College, 1880. *Mathematics.*

HENRY TABER. New York City. 143 *St. Paul St.*
Ph. B., Yale College, 1882. *Mathematics.*

HERBERT T. TIFFANY. Baltimore. 85 *Bolton St.*
A. B., Johns Hopkins University, 1882. *History and Political Science.*

ALBERT H. TOLMAN. Chicopee Falls, Mass. 8 *McCulloh St.*
A. B., Williams College, 1877. *English.*

ANDREW A. VEBLEN. Northfield, Minn. 120 *W. Biddle St.*
A. B., Carleton College, (Minn.), 1877, and A. M., 1880. *Mathematics.*

HENRY C. WARREN. Boston, Mass. 132 *W. Madison St.*
A. B., Harvard University, 1879. *Sanskrit.*

WILLIAM R. WEBB. Baltimore. 308 *Lexington St.*
A. M., Trinity College, 1878. *New Testament Greek.*

LEWIS W. WILHELM. Baltimore. 11 *Edmondson Av.*
A. B., Johns Hopkins University, 1880. *History.*

FREDERIC R. WILLIAMS. Baltimore. 25 *W. Preston St.*
A. B., Princeton College, 1882. *History.*

WILLIAM H. WILLIAMS. Madison, Wis. 178 *W. Biddle St.*
A. B., University of Wisconsin, 1876. *Greek.*

AUGUSTUS WOOD. New Bedford, Mass. 67 *Oak St.*
A. B., Brown University, 1878. *History and Political Science.*

CHARLES B. WRIGHT. Akron, O. 8 *McCulloh St.*
A. B., Buchtel College, (Ohio), 1880. *English.*

ARTHUR YAGER. Georgetown, Ky. 16 *McCulloh St.*
A. B., Georgetown College, (Ky.), 1879. *History and Political Economy.*

GLOSSBRENNER V. YONCE. Lutherville. *Lutherville.*
A. B., Roanoke College, 1877, and A. M., 1882. *Chemistry.*

JOHN H. ZWEIZIG. Reading, Pa. 162 *Franklin St.*
A. B., Muhlenberg College, 1882. *Greek.*

Members of the Historical Seminary.

In addition to seventeen elsewhere enrolled.

EDGAR GOODMAN. Baltimore. 314 *Hollins St.*
A. B., Johns Hopkins University, 1880; LL. B., University of Maryland, 1881.

EDWIN HERBEN. Baltimore. 377 *N. Bond St.*
Dickinson College.

JOHN JOHNSON. Baltimore County. *McDonogh P. O.*
A. B., Johns Hopkins University, 1881.

STEWART B. LINTHICUM. Baltimore. 131 *W. Lanvale St.*
A. B., Johns Hopkins University, 1880; LL. B., University of Maryland, 1882.

DANIEL M. MURRAY. Baltimore. 108 *Cathedral St.*
Law Department, University of Maryland.

JOHN C. ROSE. Baltimore. 187 *N. Fremont St.*
LL. B., University of Maryland, 1882.

BASIL SOLLERS. Baltimore. 279 *Mosher St.*
Baltimore City College, 1871.

Members of the Chesapeake Zoölogical Laboratory.

SESSION OF 1882.

In addition to three elsewhere enrolled.

J. H. PILLSBURY. Springfield, Mass.
Professor of Natural Science, Springfield, Mass.

JOHN M. TYLER. Amherst, Mass.
Professor of Natural Science, Amherst College.

J. M. WILSON. Ann Harbor, Mich.

FRANCIS WINSLOW. U. S. N.
Lieut. U. S. N.; U. S. Fish Commission.

MATRICULATES.

ALBERT C. APPLEGARTH. Baltimore. 632 *W. Fayette St.*
Baltimore City College.

C. WALTER ARTZ. Hagerstown. 73 *Edmondson Av.*
Mr. J. T. Carlile, Instructor.

WILLIAM S. BAYLEY. Baltimore. 641 *W. Lombard St.*
Baltimore City College, 1879.

W. Lloyd Bevan.* Rev. W. Kirkus, Instructor.	Baltimore.	101 *W. Lanvale St.*
J. Guy Boston.* Baltimore City College.	Baltimore.	464 *Madison Av.*
John P. Campbell. Andrew Small Academy.	Charlestown, W. Va.	352 *N. Eutaw St.*
Walter B. Canfield. Mr. G. G. Carey's School.	Baltimore.	43 *Cathedral St.*
George G. Carey, Jr. Mr. G. G. Carey's School.	Baltimore.	265 *N. Eutaw St.*
John H. Carroll.* Mr. W. S. Marston's School.	Baltimore.	42 *Franklin St.*
William K. Cromwell. Mr. H. W. Luckett, Instructor.	Baltimore County.	94 *W. Lombard St.*
Charles W. R. Crum. Franklin and Marshall College.	Jefferson.	263 *N. Eutaw St.*
Eugene L. Crutchfield.* Mr. S. Z. Ammen, Instructor.	Baltimore.	240 *N. Carrollton Av.*
William Cumming. Baltimore City College.	Baltimore.	295 *E. North Av.*
William R. Dewitt.* McDonogh School.	Baltimore County.	*McDonogh P. O.*
Maurice Fels. Mr. E. Cohen, Instructor.	Philadelphia, Pa.	275 *Lexington St.*
Charles Frick. Baltimore City College.	Baltimore.	400 *Park Av.*
Harry Friedenwald. Baltimore City College.	Baltimore.	88 *N. Eutaw St.*
William E. Gates.* Mr. George Eastburn, Instructor.	Philadelphia, Pa.	79 *McCulloh St.*
Philip C. Gilbert.* Mr. G. G. Carey's School.	Glencoe.	*Glencoe.*
D. Sterrett Gittings. Mr. H. W. Luckett, Instructor.	Baltimore.	145 *N. Charles St.*
John Glenn, Jr. Mr. G. G. Carey's School.	Baltimore.	343 *N. Eutaw St.*
William L. Glenn. Mr. G. G. Carey's School.	Baltimore.	153 *N. Charles St.*
Basil B. Gordon. Mr. H. W. Luckett, Instructor.	Baltimore.	27 *Franklin St.*
William J. Guard. Friends' Academy.	Baltimore.	150 *Park Av.*
W. Beatty Harlan. St. John's College.	Churchville.	119 *W. Madison St.*

*Conditionally.

JOHN HINKLEY. Mr. G. G. Carey's School	Baltimore.	287 *N. Charles St.*
CHARLES H. HOWARD. Mr. W. S. Marston's School.	Baltimore.	101 *N. Charles St.*
LINDLEY M. HUGGINS.* Friends' High School.	Baltimore.	*St. Paul St. extended.*
ROBERT C. JOHNSTON. Mr. W. S. Marston's School.	Baltimore.	82 *Franklin St.*
GEORGE T. KEMP. Baltimore City College.	Baltimore.	55 *N. Greene St.*
RUDOLPH A. LIEBIG. E. Deichmann, Ph.D., Instructor.	Baltimore.	307 *St. Paul St.*
JAMES A. LOANE. Baltimore City College, 1882.	Baltimore.	410 *N. Eden St.*
GONZALES LODGE. Baltimore City College, 1881.	Baltimore.	445 *N. Mount St.*
JOHN D. LORD, JR. Mr. M. A. Newell, Instructor.	Baltimore.	205 *N. Carrollton Av.*
WILLIAM P. LYONS. Loyola College.	Baltimore.	377 *N. Gilmor St.*
ALLAN MCLANE. Mr. H. W. Luckett, Instructor.	Baltimore.	37 *Cathedral St.*
EDGAR G. MILLER, JR. Friends' Academy.	Baltimore.	279 *W. Baltimore St.*
WILLIAM R. ORNDORFF. Baltimore City College, 1881.	Baltimore.	13 *Lorman St.*
GEORGE D. PENNIMAN.* Baltimore City College.	Howard County.	*St. Denis P. O.*
WILLIAM H. PERKINS. Mr. W. S. Marston's School.	Baltimore.	207 *Franklin St.*
JOHN PLEASANTS.* Mr. W. S. Marston's School.	Baltimore.	66 *Mt. Vernon Place.*
MOSES R. RYTTENBERG.* Baltimore City College, 1882.	Baltimore.	72 *N. Front St.*
HUGO STEINER. Baltimore City College.	Baltimore.	23 *Hollins St.*
GEORGE C. STOKES, JR. Dr. J. C. M. Mérillat, Instructor.	Govanstown.	*Govanstown.*
WILLIAM E. STRATTON. Baltimore City College.	Baltimore.	66 *N. Liberty St.*
FREDERICK H. WILKENS. Friends' High School, 1882.	Baltimore.	226 *W. Lombard St.*
HENRY W. WILLIAMS. Mr. W. S. Marston's School.	Baltimore.	60 *Franklin St.*

*Conditionally.

HENRY V. WILSON. Baltimore City College.	Baltimore.	314 *Linden Av.*
WILLIAM J. WITZENBACHER. Washington County High School.	Hagerstown.	54 *McCulloh St.*

NON-MATRICULATES.

Course Preliminary to the Study of Medicine.

Graduates and Matriculates pursuing this course are enrolled above.

JERE W. LORD. Mr. M. A. Newell, Instructor.	Baltimore.	205 *N. Carrollton Av.*
WILLIAM L. MUSSEY. Yale College.	Cincinnati, Ohio.	182 *Madison Av.*
N. RYNO SMITH. Mr. W. S. Marston's School.	Baltimore.	45 *Franklin St.*
HENRY M. THOMAS. Haverford College.	Baltimore.	317 *Madison Av.*

Special Students.

THOMAS ANDERSON. Episcopal High School of Virginia. *History, etc.*	Louisville, Ky.	174 *St. Paul St.*
W. S. GRAFF BAKER, JR. Princeton College. *Chemistry and Physics.*	Baltimore County.	*Govanstown.*
THOMAS H. BUCKLER. Harvard College. *Latin.*	Baltimore.	135 *N. Charles St.*
THOMAS L. COLE. Virginia Theological Seminary. *Philosophy and Greek.*	Orange, N. J.	65 *McCulloh St.*
ARTHUR T. COLLINS. Private Instruction. *Chemistry.*	Bristol, Pa.	*Mt. Washington.*
J. HOLMES CONVERSE. Racine College. *Greek and Latin.*	Baltimore.	*Bar Library.*
DANIEL B. DORSEY. Baltimore City College. *History and German.*	Baltimore.	205 *Franklin St.*
JULIUS I. FAERBER. University of the City of New York. *Mathematics, etc.*	New York City.	11 *McElderry St.*
JAMES A. FINK. Holy Cross College (Worcester, Mass.) *History, etc.*	Baltimore.	221 *Franklin St.*
MAURICE GREGG. Mr. W. S. Marston's School. *History, etc.*	Baltimore.	155 *N. Charles St.*

JOHN H. LAESSIG. Baltimore. 419 *W. Fayette St.*
Maryland College of Pharmacy. *Chemistry.*

ORMSBY L. MAHON. Baltimore. 136 *N. Exeter St.*
Baltimore City College. *Chemistry.*

A. HARVEY MCCAY. Baltimore. 232 *N. Charles St.*
Baltimore City College. *History, etc.*

CHARLES T. MCDANIEL. Baltimore. 423 *W. Fayette St.*
Baltimore City College, 1881. *Greek and Philosophy.*

CHARLES G. MERRYMAN. Baltimore County. *Warren P. O.*
Baltimore City College, 1882. *Greek and Philosophy.*

JAMES W. MORRISON, JR. Staunton, Va. 265 *Linden Av.*
Washington and Lee University. *Chemistry and Languages.*

JOHN O. PATTEN. Bath, Me. 16 *McCulloh St.*
Bath High School. *History, etc.*

FREDERICK PUND. Baltimore. 232 *N. Gay St.*
Mr. C. P. Grady's School. *Chemistry.*

ALEXANDER M. RICH. Reisterstown. *Reisterstown.*
College of St. James Grammar School. *Latin and Greek.*

BENJAMIN T. ROBERTS, JR. North Chili, N. Y. 259 *Madison Av.*
Rochester University. *Latin, etc.*

ROBERT P. SCOTT. Baltimore. *Clarendon Hotel.*
Private Instruction. *Physics and Mathematics,*

CHARLES H. SHINN. San Francisco, Cal. 8 *McCulloh St.*
University of California. *History and Political Science.*

EDWARD SWANN. Fernandina, Fla. 16 *McCulloh St.*
University of Virginia. *History and Philosophy.*

WILLIAM J. THOMAS. Baltimore. 10 *S. Calhoun St.*
Randolph Macon College. *History, etc.*

WILLIAM WALZ. Baltimore. 288 *E. Madison St.*
Baltimore City College, 1881. *Greek and Latin.*

HENRY H. WIEGAND. Baltimore. 272 *Madison Av.*
Baltimore City College. *Chemistry and Mathematics.*

SUMMARY.

Academic Staff.

President and Professors,	7
Lecturers,	9
Associates,	16
Instructors and Assistants,	9
	41

Enrolled Students.

Graduates (including Fellows),	125
Matriculates,	49
Non-Matriculates,	30
Total Number of Enrolled Students,	**204**

Average of Attendance on Public Courses of Lectures (see p. 43), **148**

Enrolled Students—1876-83.

	Graduates (including Fellows.)	Matriculates.	Non-Matriculates.	Total Enrolled.	Average Attendance upon Public Lectures.
1876-77.....	54	12	23	89	60
1877-78.....	58	24	22	104	84
1878-79.....	63	25	35	123	96
1879-80.....	79	32	48	159	113
1880-81.....	102	37	37	176	186
1881-82.....	99	45	31	175	137
1882-83	125	49	30	204	148

The attendance upon the various courses of instruction during the academic year (1882-83) has been as follows:

Mathematics, . . 35	Latin, ... 41	Political Economy, 25
Physics, . . . 50	Hebrew, ... 4	Logic, ... 14
Chemistry, . . . 49	German, ... 50	Philosophy, etc., . 47
Biology, . . . 30	Romance Languages, 31	Drawing, . . . 8
Greek, ... 44	English, ... 45	Elocution, . . . 36
Sanskrit, etc., . 8	History, ... 59	Physical Culture, . 47

Classification by Residence of Students, 1882-83.

Maryland (Baltimore, 91),	103	Nebraska,	2
New York,	16	California,	2
Massachusetts,	10	New Hampshire,	1
Pennsylvania,	10	Vermont,	1
Ohio,	7	Virginia,	1
New Jersey,	6	West Virginia,	1
District of Columbia,	4	Georgia,	1
Kentucky,	4	Alabama,	1
Canada,	4	Florida,	1
South Carolina,	3	Tennessee,	1
Michigan,	3	Indiana,	1
Wisconsin,	3	Missouri,	1
Maine,	2	Colorado,	1
North Carolina,	2	France,	1
Illinois,	2	Germany,	1
Iowa,	2	Italy,	1
Minnesota,	2		

Students Enrolled above have been Graduated in the Institutions below named.

Johns Hopkins University,	20	University of Heidelberg,	1
Amherst College,	8	Illinois Wesleyan College,	1
University of Maryland,	7	Jefferson Medical College,	1
Yale College,	4	Kalamazoo College,	1
Williams College,	4	University of London,	1
Davidson College,	3	Massachusetts Agricultural College,	1
Norwegian Luther College,	3	McGill University,	1
Princeton College,	3	Mercer University,	1
University of Virginia,	3	Michigan Agricultural College,	1
University of Wisconsin,	3	University of Minnesota,	1
Boston University,	2	Moores Hill College (Ind.),	1
Harvard University,	2	Muhlenberg College,	1
University of Pennsylvania,	2	University of Munich,	1
Kentucky Wesleyan College,	2	Muskingum College (O.),	1
Lafayette College,	2	University of Nebraska,	1
University of Michigan,	2	Newberry College,	1
University of Vermont,	2	College, City of New York,	1
Victoria University (Canada),	2	University of New York,	1
Worcester Free Institute,	2	University of North Carolina,	1
Bellevue Hospital Medical College,	1	Pennsylvania State College,	1
Brown University,	1	Roanoke College,	1
Buchtel College (O.),	1	Rutgers College,	1
Carleton College,	1	Rutgers Theological Seminary,	1
University of Cincinnati,	1	University of the South,	1
University of Colorado,	1	St. Lawrence University,	1
Columbia College,	1	Swarthmore College,	1
Cornell University,	1	University of Toronto,	1
University of France,	1	Trinity College,	1
University of Freiburg,	1	U. S. Naval Academy,	1
Furman University,	1	Union College,	1
Geneva College,	1	Wesleyan University,	1
German Wallace College,	1	Westminster College (Mo.),	1
Georgetown College (Ky.),	1	University of Wooster,	1
Haverford College,	1		

INTRODUCTORY STATEMENTS.

THE JOHNS HOPKINS UNIVERSITY, liberally endowed by the munificence of a Baltimore merchant, whose name it bears, and chartered by authority of the State of Maryland with power to confer degrees, was opened for instruction in October, 1876. The plans of the institution had been already announced in the inaugural ceremonies of February 22, 1876, and the anniversary has since been observed as a Commemoration Day.

Suitable buildings for recitations, lectures, laboratories, and a library were provided in the heart of Baltimore, and were equipped with the necessary apparatus and books. The site thus secured is near the Peabody Institute and the Baltimore City College, as well as to good hotels and lodging-houses, and is readily accessible by horse-cars from every part of the city.

In the organization of the University, the funds were so large, and the application of them so unrestricted, that the effort was made to discover and adopt the best methods for the advancement of higher education, which the experience of older foundations and the wisdom of able professors might suggest, without endeavoring to follow any existing model. In other words, the desire has been to create an American University. The success of the effort time alone can determine; but thus far the authorities have seen no reason to deviate from the principles originally laid down.

Among the principles which have been observed from the foundation, are these:

1. *As to Teachers*,—to select the ablest whose services can be secured, to keep them free from petty cares, and to encourage them to forward by researches and publications the sciences they profess.

2. *As to Scholars,*—to care less for numbers than for merit, to maintain high standards of matriculation and graduation, to allow a wide latitude in respect to the choice of courses of instruction, and to give special facilities (such as Fellowships and Scholarships) to those who show unusual ability in any department of study.

3. *As to material aid,*—to provide, on a liberal scale, the halls and laboratories, the books and instruments which are needed for work in progress, and to defer, for the present, the formation of museums and the purchase of collections for remote and general purposes, and the construction of costly buildings.

4. *As to methods of instruction,*—to employ whatever agencies are found efficient; lectures, recitations, laboratory exercises, seminaries, reading classes, field work, etc., at the discretion of the teachers and according to the nature of the subjects taught.

5 *As to researches and publications,*—to favor the prosecution of research in literature and science, and to aid in the publication of results.

6. *As to coöperation,*—to avoid rivalry with other institutions, to accept heartily all the assistance which can be secured from other foundations, and to aid generously in promoting the advancement of the public welfare so far as it may depend upon university influences.

The scientific Laboratories of the University are three in number. They are open throughout the day and are fully equipped. Chemistry has a special building, recently enlarged, and well arranged for about ninety workers. It is adapted to all kinds of chemical and mineralogical work, separate rooms being provided for different branches. It has a well selected library, containing complete sets of all the leading chemical periodicals, for the use of those working in the laboratory. The Physical Department occupies temporary rooms in the main building, and the construction of a new laboratory for it is contemplated. It is

furnished with apparatus purchased from the best European and American makers, selected with special reference to investigations, and especially valuable for researches in respect to electricity, magnetism, light, and heat. In these particulars few institutions, if any, are better supplied. A list of the instruments available here and elsewhere for precise physical experiments has been printed. A large building, recently constructed for a Biological Laboratory, is ready to be occupied. It is adapted to all kinds of physiological and morphological work, and contains separate rooms for the different branches, special lecture-rooms, a library, etc. A skillful mechanician is in the constant employment of the University for the construction and repair of apparatus. The amount expended for scientific apparatus has been over $48,000.

The Library of the University includes over 17,000 bound volumes, purchased at a cost of over $40,000. It is open daily for thirteen hours, and comprises :—

A collection of books for general reference, including not only cyclopædias and dictionaries, but copies of the works of great authors, ancient and modern, in different branches of literature and science ;

Several special collections of books which have been bought as the working apparatus of those departments of study now instituted among us, from lists which have been furnished by the several instructors ;

A transient collection of new books, English, French, and German, brought here for examination as soon as published, sometimes by purchase, and sometimes by the courtesy of dealers ;

A collection of scientific and literary periodicals, now numbering three hundred and fifty. This list is supplemented by those of the Peabody Institute and other institutions of the city, so that the whole number of journals accessible to students (exclusive of ephemeral publications) exceeds seven hundred. They pertain to all departments of knowledge and come from all parts of the globe.

The Peabody Institute of Baltimore is a foundation liberally endowed by Mr. George Peabody. It includes a library of more than 79,000 well chosen volumes, which is open twelve hours

daily; a conservatory of music, giving every winter classical concerts and lectures on music; a gallery of casts from the antique, presented by Mr. John W. Garrett; and it gives annual courses of public lectures.

The Maryland Historical Society affords excellent facilities for the study of American History.

The principal libraries of Baltimore, easily accessible to students on varying conditions, are these:

	Volumes.
Peabody Institute,	79,000
Mercantile Library,	37,500
Maryland Historical Society,	22,000
Johns Hopkins University,	17,000
Bar Library,	9,000
Medical and Chirurgical Library,	3,500
	168,000

Among the chief institutions in Washington, of interest to students, are these:

The Smithsonian Institution and National Museum.
The Library of Congress.
The Army Medical and Surgical Museum and Library.
The U. S. Coast and Geodetic Survey.
The U. S. Geological Surveys.
The U. S. Naval Observatory.
The U. S. Signal Service.
The U. S. Agricultural Bureau.
The U. S. Census Office.
The U. S. Bureau of Education.
The Libraries of the Departments.
The Corcoran Art Gallery.

Various classes of students are received, and provision is made for manifold courses of study adapted to different vocations and to the special needs of individuals. Hitherto, professional instruction has not been offered in law, medicine, and theology, or in such applied sciences as engineering, architecture, etc., but the force of the University has been given to those liberal arts and sciences which belong to the Faculty of Philosophy,

and are recognized, at home and abroad, as of fundamental importance.

A distinction is here made between Collegiate and University students. For the former a rigid standard of matriculation is maintained, definite courses are prescribed, stated examinations are held, and finally the degree of Bachelor of Arts is bestowed upon those who have successfully completed their work. It is not required that all the collegiate scholars follow one scheme of studies; seven different combinations have been proposed and marked out; but these are all so arranged that before graduation every candidate will have been trained in Mathematics (including Algebra, Geometry, Trigonometry, and Analytic Geometry), in Latin, German, French, and English, in one branch of science, and to some extent in historical and philosophical investigation. Opportunities are thus afforded for those who wish to become classical scholars, to give their time largely to Greek and Latin; for those who prefer Mathematics to devote special attention to this branch; and similarly as regards Chemistry, Physics, and Biology, Modern Languages, History, etc., (see tabular statement of college courses). The number of matriculated students during the past year was 49.

University students are those who have already received a collegiate training or its equivalent, and desire to prosecute advanced courses of literary and scientific work under the direction of the instructors of the University, with the aid of the libraries and laboratories here provided. To such persons the utmost facilities are accorded. Definite courses of study are marked out for them, if they desire it, and they are aided by personal counsel in deciding upon what subjects to devote their time. They may be enrolled as candidates for the degree of Doctor of Philosophy. For the encouragement of this class of students, twenty fellowships are annually awarded, and ten graduate scholarships have been bestowed the past year, and a like number may be expected in the future. The number of graduate students during the past year was 125.

Admission of Students.

The following classes of students are received :

I. *Graduates.*

Young men who have already graduated in institutions of acknowledged standing are received on the presentation of their diplomas, after satisfying the chief instructors in the departments of study which they propose to follow that they are qualified to pursue the courses here given. They may be enrolled as candidates for the degree of Doctor of Philosophy or not, at their option. Those whose years and attainments correspond with those of graduates may also be received as special university students.

II. *Matriculates.*

Young men who desire a liberal collegiate training as the foundation for their future professional life are expected to matriculate, by passing a formal examination, and entering upon a course of study which leads to the degree of Bachelor of Arts. It is desirable that they should pass this examination thoroughly at the time of their admission. If they present themselves with higher attainments than those requisite for matriculation, they may, upon examination, receive credit for the same, be admitted to advanced classes, and so graduate in less time than would otherwise be requisite.

III. *Non-Matriculates.*

1. Students in Subjects Preliminary to a Medical Course.

A course of studies including Physics, Chemistry, and Biology, (with other required subjects, as shown in the tabular statement of college courses), has been arranged for the instruction of young men who intend at a later day to pursue the study of medicine. Those who are not candidates for the degree of Bachelor of Arts may be admitted to this course on passing a prescribed examination, as elsewhere stated. If, after entering the University, they desire to become candidates for this degree, they will be encouraged to pass the usual matriculation examination.

2. Special Students.

Young men of collegiate age, who can satisfy a committee consisting of the President and two of the chief instructors that they are sufficiently advanced in character and attainments to be allowed the privilege, and that there is some good reason why they should not offer themselves for matriculation, may be admitted to certain classes; but this privilege may be forfeited at any time if the student is found unworthy of it.

3. Attendants upon Lectures.

The University has extended certain privileges to teachers following special courses arranged for them, to medical students attending demonstrations in physiology, and to other persons admitted to the lectures in Hopkins Hall, but they are not regarded as belonging to the University, and are not enumerated as enrolled students.

University Instruction.

Advanced and graduate students are received with or without reference to their being candidates for a degree, and they are permitted to attend such lectures and exercises as they may individually select. They are not examined for admission to the University, but each instructor satisfies himself of the attainments of all who wish to follow his guidance before admitting them to his classes.

The University professors are not absorbed in the details of college routine, but are free to give personal counsel and instruction to those who seek it; books and instruments adapted to investigation and advanced work have been liberally provided; the system of Fellowships secures the presence of twenty special students imbued with the university spirit, most of them looking forward to academic careers; seminaries limited to a few advanced students, under the guidance of a director, have been organized in Greek, Mathematics, Physics, etc.; societies devoted to Philology, to Mathematical, Physical and Natural Science, to Metaphysics, and to History and Political Science,

afford opportunities for the presentation of memoirs and original communications, and there are also clubs for the reading and discussion of Biological, Physical, and Chemical papers; during the year, courses of lectures are given by resident and non-resident professors on topics to which they have given special attention; the libraries of the Peabody Institute and Maryland Historical Society, founded for the advantage of scholars, are easily accessible; the issuing, under the auspices of the Trustees, of publications devoted to Mathematics, Chemistry, Philology, and Biology, brings the University into advantageous connection with other scientific foundations; and the University reading-room, which is constantly open, is liberally supplied with new and with standard books and with the literary and scientific journals of this and other lands. Instruction is carried on by such methods (varying of course with individual scholars and with the different departments of work) as will encourage the student to become an independent and original investigator, while he is growing more and more familiar with the work now in progress elsewhere and with the results which have been obtained by others laboring in the same field, and he is adding to his general intellectual culture. Within reasonable limits, the University will provide such books, apparatus, and material as may be requisite for this purpose.

The instruction for graduate students varies somewhat each year, in its details, which may be ascertained by correspondence or by consulting the programmes and announcements published in the summer, copies of which may be obtained on application.

Courses may always be expected in the following subjects:

Mathematics,
Physics,
Chemistry,
Mineralogy,
Biology,
Logic,
History of Philosophy and Ethics,
Psychology,
History,
Political Economy,
Comparative Philology,
Sanskrit,
Shemitic Languages,
Greek,
Latin,
Romance Languages,
Teutonic Languages,
Anglo-Saxon,
English.

Degree of Doctor of Philosophy.

The degree of Doctor of Philosophy and Master of Arts will be conferred in conformity with the following regulations:

1. The candidate must have taken his first degree in a college of good standing.

2. An interval of three years or more must have elapsed between his baccalaureate examination and his graduation as Doctor of Philosophy.

3. He must have been accepted as a candidate by the Academic Council of this University one year before his final examination.

4. He must file with the President, before being accepted as a candidate, a statement of the principal and subordinate subjects on which he desires to be examined; and, when it is determined, a statement of the subject of his graduating thesis.

5. His thesis must be submitted to the Academic Council at least three months before the time when he proposes to pass his final examinations. This thesis will be carefully examined, and, if it is found satisfactory, arrangements will be made for oral or written examinations, one or more of which must be conducted in the presence of the Academic Council.

6. In exceptional cases, by special permission of the Academic Council, non-resident students may be examined for this degree. Such candidates must have been accepted at least two years before their final examination, and have prosecuted their studies under such arrangements and conditions as shall meet with the approbation of the President and Professors of this University. In other particulars the regulations above given will apply to these cases.

7. The appointment to a Fellowship here is regarded as equivalent to a Baccalaureate degree.

Degrees Conferred.

The degree of Doctor of Philosophy has been conferred on the following named persons, who have fulfilled the required conditions:

1878. Henry Carter Adams, A. B., Iowa College, 1874.
1880. Francis Greenleaf Allinson, A. B., Harvard University, 1877.
1881. Louis Bevier, A. B., Rutgers College, 1878.
1879. Maurice Bloomfield, A. M., Furman University, (S. C.), 1877.

1882. James Wilson Bright, A. B., Lafayette College, 1877.
1879. Samuel Fessenden Clarke, Ph. B., Yale College, 1878.
1881. Robert Dorsey Coale.
1878. Thomas Craig, C. E., Lafayette College, 1875.
1881. Edward Allen Fay, A. B., University of Michigan, 1862.
1881. Lawrence Bunting Fletcher, A. B., Columbia College, 1877.
1880. Fabian Franklin, Ph. B., Columbian University, 1869.
1881. Samuel Garner, A. B., St. John's College, 1871.
1880. Edwin Herbert Hall, A. B., Bowdoin College, 1875.
1879. George Bruce Halsted, A. B., Princeton College, 1875.
1879. Edward Hart, S. B., Lafayette College, 1874.
1881. Edward Mussey Hartwell, A. B., Amherst College, 1873.
1879. William White Jacques, S. B., Massachusetts Institute of Technology, 1876.
1882. John Franklin Jameson, A. B., Amherst College, 1879.
1882. Mitsuru Kuhara, S. B., University of Tokio, 1877.
1882. Robert W. Mahon, C. E., Lehigh University, 1876.
1880. Allan Marquand, A. B., Princeton College, 1874.
1882. Oscar Howard Mitchell, A. B., Marietta College, 1875.
1883. Kakichi Mitsukuri, Ph. B., Yale College, 1879.
1882. George Frederick Nicolassen, A. B., University of Virginia, 1879.
1882. William Albert Noyes, A. B., Iowa College, 1879.
1883. Bernard Francis O'Connor, Bach. ès Lettres, Université de France, 1874.
1882. Chase Palmer, A. B., Johns Hopkins University, 1879.
1878. Josiah Royce, A. B., University of California, 1875.
1881. William Thompson Sedgwick, Ph. B., Yale College, 1877.
1879. Henry Sewall, S. B., Wesleyan University, 1876.
1881. Christian Sihler, M. D., University of Michigan, 1871.
1878. Ernest Gottlieb Sihler, Concordia College, 1869.
1882. Edward Henry Spieker, A. B., Johns Hopkins University, 1879.
1880. Washington Irving Stringham, A. B., Harvard University, 1877.
1881. Edmund Beecher Wilson, Ph. B., Yale College, 1878. (35)

Fellowships.

Twenty fellowships are annually open to competition in this university, each yielding five hundred dollars and exempting the holder from all charges for tuition.

Object of the Foundation.—The system of fellowships was instituted for the purpose of affording to young men of talent from any place an opportunity of continuing their studies in the Johns Hopkins University, while looking forward to positions as professors, teachers, and investigators, or to other literary and scientific vocations. The appointments have not been made as rewards for good work already done, but as aids and incentives to good work in the future; in other words, the fellowships are not so much honors and prizes bestowed for past achievements, as helps to further progress, and stepping-stones to honorable intellectual careers. They have not been offered to those who are definitely looking forward to the practice of either of the three learned professions (though such persons have not been

formally excluded from the competition), but have been bestowed almost exclusively on young men desirous of becoming teachers of science and literature, or proposing to devote their lives to special branches of learning which lie outside of the ordinary studies of the lawyer, the physician, and the minister.

Every candidate is expected to submit his college diploma or other certificate of proficiency from the institution where he has been taught, with recommendations from those who are qualified to speak of his character and attainments. But this is only introductory. He must also submit, orally or in writing, such evidence of his past success in study, and of his plans for the future, together with such examples of his literary or scientific work, as will enable the professors to judge of his fitness for the post. The examination is indeed in a certain sense competitive; but not with uniform tests, nor by formal questions submitted to the candidates. First, the head of a given department considers, with such counsel as he may command, the applicant's record. The professors then collectively deliberate on the nominations made by individual members of their body. The list upon which they agree, with the reasons for it, is finally submitted by the president of the university to the executive committee, and by them to the trustees for final registration and appointment. By all these precautions, the highest results which were anticipated have been secured. A company of most promising students has been brought together, and their ability as teachers and scholars has been recognized by the calls they have received to permanent and desirable posts in different parts of the country.

The number of applications for fellowships has hitherto been very large, and it may have happened that some candidates have failed of appointment who were really superior to those selected. But, if so, this has resulted from the fact, that a considerable number of applicants have each year forwarded to the university merely testimonials from their instructors without any such examples of their own work as have been mentioned above; and in consequence, the professors, from want of adequate knowledge, have been compelled to pass over candidates who may have been in the highest degree meritorious.

It is obvious from the nature of the case that graduate students residing in Baltimore must have better opportunities than others

of making known their powers to the appointing board; but the absence of candidates from Baltimore has been no bar to their appointment, in cases where adequate evidence of their claims has been presented.

REGULATIONS.

1. The application must be made in writing.

2. The candidate must give evidence of a liberal education, such as the diploma of a college of good repute; of decided proclivity towards a special line of study, such as an example of some scientific or literary work already performed; and of upright character, such as a testimonial from some instructor.

3. The value of each fellowship will be five hundred dollars. In case of resignation, promotion, or other withdrawal from the fellowship, payments will be made for the time during which the office shall have been actually held.

4. Every holder of a fellowship will be expected to render some services to the institution as an examiner, to give all his influence for the promotion of scholarship and good order, and in general to co-operate in upholding the efficiency of the university, as circumstances may suggest. He must reside in Baltimore during the academic year.

5. He will be expected to devote his time to the prosecution of special study (not professional), with the approval of the president, and before the close of the year, to give evidence of progress by the preparation of a thesis, the completion of a research, the delivery of a lecture, or by some other method.

6. He may give instruction, with the approval of the president, by lectures or otherwise, to persons connected with the university, but he may not engage in teaching elsewhere.

7. He may be re-appointed at the end of the year.

8. The appointments are usually made as follows:

In mathematics, three; chemistry, three; physics, three; biology, three; Greek, three; other subjects, five.

9. *Applications for the next year should reach the university before May* 10, 1884.

Holders of Fellowships, 1876–82.

Henry Carter Adams, Ph. D., Non-Resident Professor, Cornell University; Lecturer on Political Economy, University of Michigan. *Iowa.*

Herbert Baxter Adams, Ph. D., Associate in History, (J. H. U.). *Amherst.*

Francis Greenleaf Allinson, Ph. D., Assistant Professor of Greek and Latin, Haverford College, 1880–82; Classical Instructor, Baltimore. *Harvard.*

Brown Ayres, S. B., Professor of Physics, University of Louisiana. *Stevens Institute.*

Louis Bevier, Ph. D., Student of Philology, University of Bonn. *Rutgers.*

Maurice Bloomfield, Ph. D., Associate in Sanskrit, (J. H. U.). *Furman.*

James Wilson Bright, Ph. D., Assistant in German, (J. H. U.). *Lafayette.*

William Keith Brooks, Ph. D., Associate in Biology, (J. H. U.); Director of the Chesapeake Zoölogical Laboratory. *Williams.*

Edward Sandford Burgess, A. B., Instructor, Washington (D. C.) High School. *Hamilton.*

William Burney, Ph. D., Professor of Chemistry, South Carolina Agricultural College. *Davidson.*

Benjamin Chapman Burt, A. B., Assistant Professor of English and Rhetoric, University of Michigan. *University of Michigan.*

Samuel Fessenden Clarke, Ph. D., Professor of Natural History, Williams College. *Yale.*

Robert Dorsey Coale, Ph. D., Assistant in Chemical Laboratory, (J. H. U.).

William James Comstock, Ph. B., Student of Chemistry, University of Munich. *Yale.*

Thomas Craig, Ph. D., Associate in Mathematics, (J. H. U.). *Lafayette*

Constantine Fahlberg, Ph. D., Chemist, Gray's Ferry Chemical Works, Philadelphia. *Leipsic.*

Lawrence Bunting Fletcher, Ph. D., Instructor in Physics, Wesleyan University. *Columbia.*

Fabian Franklin, Ph. D., Associate in Mathematics, (J. H. U.). *Columbian.*

Spencer Hedden Freeman, A. M., Professor of Physics and Astronomy, Adelbert College, Cleveland, Ohio. *University of Rochester.*

Benjamin Ives Gilman, A. B., Fellow by Courtesy, (J. H. U.). *Williams.*

Joshua Walker Gore, C. E., Professor of Natural Philosophy and Engineering, University of North Carolina. *University of Virginia.*

Edwin Herbert Hall, Ph. D., Instructor in Physics, Harvard University. *Bowdoin.*

Lyman Beecher Hall, Ph. D., Professor of Chemistry and Physics, Haverford College. *Amherst.*

George Bruce Halsted, Ph. D., Instructor in the Graduate Courses of Mathematics, Princeton College. *Princeton.*

Edward Coles Harding, A. M., late Professor of Greek, University of Louisiana. *University of Virginia.*

Edward Hart, Ph. D., Assistant Professor of Chemistry, Lafayette College. *Lafayette.*

Edward Mussey Hartwell, Ph. D., Instructor in Physical Culture, (J. H. U.). *Amherst.*

Charles Robert Hemphill, A. M., Associate Professor of Biblical Literature, Theological Seminary, Columbia, S. C. *University of South Carolina.*

Daniel Webster Hering, C. E., Professor of Mathematics, Western Maryland College. *Yale.*

Malvern Wells Iles, Ph. D., Chemist, Leadville, Colorado. *Columbia.*

John Robin McDaniel Irby, Ph. D., *Deceased.* *University of Virginia.*

William White Jacques, Ph. D., Electrician of American Bell Telephone Co., Boston. *Massachusetts Institute of Technology.*

John Franklin Jameson, Ph. D., Instructor in History, (J. H. U.). *Amherst.*

Mitsuru Kuhara, Ph. D., Curator of the Scientific Museums, University of Tokio, Japan. *University of Tokio.*

Charles Rockwell Lanman, Ph. D., Professor of Sanskrit, Harvard University. *Yale.*

Allan Marquand, Ph. D., Instructor in the History of Art, Princeton College. *Princeton.*

David McGregor Means, A. B., Professor of Political and Mental Science, Middlebury College, 1877–80. *Yale.*

Oscar Howard Mitchell, Ph. D., Professor of Mathematics, Marietta College. *Marietta.*

Kakichi Mitsukuri, Ph. D., Professor of Zoölogy, University of Tokio, Japan. *Yale.*

Harmon Northrop Morse, Ph. D., Associate in Chemistry, (J. H. U.). *Amherst.*
Edward Leamington Nichols, Ph. D., Professor of Physics and Chemistry, Central University, Ky. *Cornell.*
George Frederick Nicolassen, Ph. D., Professor of Greek and Latin, Southwestern Presbyterian University, Tenn. *University of Virginia.*
Bernard Francis O'Connor, Ph. D., Fellow by Courtesy, (J. H. U.). *University of France.*
Henry Leslie Osborn, A. B., Fellow by Courtesy, (J. H. U.). *Wesleyan.*
Isaac Ott, M. D., late Lecturer on Physiology, University of Pennsylvania; Physician, Easton, Penn. *University of Pennsylvania.*
Walter Hines Page, Professor in Louisville (Ky.) Male High School, 1878–79. *Randolph-Macon.*
Chase Palmer, Ph. D., Professor of Chemistry, Massachusetts State Normal School, Salem. *Johns Hopkins.*
Herbert Mills Perry, A. B., Chicago, Ill. *Harvard.*
Waldo Selden Pratt, A. B., late of the Metropolitan Museum of Art, New York City; Instructor in Ecclesiastical Music, Hartford Theological Seminary. *Williams.*
Robert Woodworth Prentiss, S. B., U. S. Nautical Almanac Office, Washington. *Rutgers.*
Erasmus Darwin Preston, C. E., U. S. Coast and Geodetic Survey. *Cornell.*
Harry Fielding Reid, A. B., Assistant in Physics, (J. H. U.). *Johns Hopkins.*
Henry Joseph Rice, M. S., Professor of Natural Sciences, Brooklyn (N. Y.) High School. *Cornell.*
Josiah Royce, Ph. D, Instructor in Philosophy, Harvard University. *University of California.*
Alexander Duncan Savage, B. Litt, late of the Metropolitan Museum of Art, New York City. *University of Virginia.*
Andreas Franz Wilhelm Schimper, Ph. D., University of Bonn. *University of Strassburg.*
William Thompson Sedgwick, Ph. D., Associate in Biology, (J. H. U.). *Yale.*
Henry Sewall, Ph. D., Professor of Physiology, University of Michigan. *Wesleyan.*
Christian Sihler, Ph. D., late Assistant in Biology, (J. H. U.); Physician, Cleveland, Ohio, *Concordia.*
Ernest Gottlieb Sihler, Ph. D., Classical Instructor, New York City. *Concordia.*
Edward Henry Spieker, Ph. D., Assistant in Greek and Latin, (J. H. U.). *Johns Hopkins.*
Washington Irving Stringham, Ph. D., Professor of Mathematics, University of California. *Harvard.*
Morrison Isaac Swift, A. B., Instructor in Philosophy, Hobart College. *Williams.*
Charles Ambrose Van Velzer, S. B., Instructor in Mathematics, University of Wisconsin. *Cornell.*
Frederick Boyd Van Vorst, A. B., Attorney at Law, New York City. *Princeton.*
Herman Voorhees, C. E., *Deceased. Rensselaer Polytechnic Institute.*
Benjamin Willis Wells, Ph. D., Instructor in English, Friends' School, Providence, R. I. *Harvard.*
Arthur Wilson Wheeler, A. B., *Deceased. Amherst.*
John Henry Wheeler, Ph. D., Professor of Greek, University of Virginia. *Harvard.*
Edmund Beecher Wilson, Ph. D., Student at the Marine Laboratory (Dohrn's), Naples. *Yale.*
Abram Van Epps Young, Ph. B., Student of Chemistry Paris, France. *University of Michigan.* (71)

The list of the present holders of Fellowships is given on page 7.

Graduate Scholarships.

By a contribution from the President and Professors, two graduate scholarships, of two hundred and fifty dollars each, were bestowed during the year 1879–80.

Graduate scholarships, each yielding two hundred and fifty dollars in addition to remission of the tuition fee of eighty

dollars, were awarded, by a vote of the Trustees, during each of the academic years 1880 to 1883, to students who gave special evidence to the Faculty of exceptional merit in the prosecution of their studies.

Like scholarships will be awarded during the year 1883–84.

Holders of Graduate Scholarships.

1879–80.

Chase Palmer, A. B., Johns Hopkins University, 1879.
Edward Henry Spieker, A. B., Johns Hopkins University, 1879.

1880–81.

William John Alexander, A. B., University of London, 1876.
Edward Sandford Burgess, A. B., Hamilton College, 1879.
Xenos Clark, S. B., Boston University, 1878.
William Cathcart Day, A. B., Johns Hopkins University, 1880.
Samuel Carroll Derby, A. B., Harvard University, 1866, and A. M., 1877.
Henry Laurence Gantt, A. B., Johns Hopkins University, 1880.*
John Franklin Jameson, A. B., Amherst College, 1879.
Charles Herschel Koyl, A. B., Victoria University, (Ontario), 1877.
William Darnell MacClintock, A. B., Kentucky Wesleyan College, 1878.
Harry Fielding Reid, A. B., Johns Hopkins University, 1880.
Henry Newlin Stokes, S. B., Haverford College, 1878.

1881–82.

Buel Preston Colton, A. B., Amherst College, 1874.
Ellery William Davis, S. B., University of Wisconsin, 1879.
William Scott Fleming, A. B., Davidson College, 1878.
William Henry Howell, A. B., Johns Hopkins University, 1881.
William Darnell MacClintock, A. B., Kentucky Wesleyan College, 1878.
Chalmers Colin Norwood, A. B., Davidson College, 1878.
William Albert Noyes, A. B., Iowa College, 1879.
Charles Albert Perkins, A. B., Williams College, 1879.
William Cleveland Thayer, A. B., Columbia College, 1876.
Lewis Webb Wilhelm, A. B., Johns Hopkins University, 1880.

1882–83.

Gustav Bissing, A. B., Johns Hopkins University, 1882.
James Reynolds Duggan, A. B., Mercer University, 1877, and A. M., 1880; M. D., Jefferson Medical College, 1879.
Hans Carl Günther Jagemann, Naumburg Gymnasium, 1876.
Charles William Emil Miller, A. B., Johns Hopkins University, 1882.
Charles Albert Perkins, A. B., Williams College, 1879.
Burr James Ramage, A. B., Newberry College, 1880.
Lewis Tebbetts Stevens, A. B., Johns Hopkins University, 1882.
Lewis Webb Wilhelm, A. B., Johns Hopkins University, 1880.

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*Declined the Scholarship, to accept the appointment of Instructor in the McDonogh School.

Collegiate Instruction.

Seven distinct collegiate courses are offered to undergraduates. These courses are all based on the supposition that the student has passed an examination in the fundamental studies usually required for admission to American colleges and has thus been matriculated. The tabular statement, given elsewhere, exhibits the distinctive features of each combination of studies. In all the courses, various branches of literature and science are so combined as to secure a liberal education of the intellectual and moral powers, to store the mind with useful knowledge, and to cultivate the art of appropriate expression. The training here given is founded upon the ancient and modern languages, mathematics, the physical and natural sciences, history, and the moral sciences. But to facilitate a wise selection among these branches seven definite courses have been arranged, some one of which the matriculated student is expected to follow. Students who prefer the traditional classical course have ample opportunities for the study of Greek and Latin, with classical antiquities, comparative philology, and other accessory subjects. Others who prefer to concentrate their main attention upon the higher and the more difficult branches of Mathematics, may do so. Other courses are arranged for those who wish to give their minds chiefly to Chemistry and Physics, with particular reference to some of the new vocations of modern society. For those who expect at a later day to take up the study of medicine, there is a special course marked out, in which Biology, or the study of living things, animal and vegetable, in their forms and functions, is a dominant subject. Arrangements are also made in other courses for the study of History and Political Science and of the Modern Languages and Literature. Care is taken that, while certain important subjects preponderate in each course, there shall be subordinate and accessory requirements to prevent the student from having a narrow or one-sided development. Whatever course is followed the power to read French and German must be attained before the student graduates, and likewise the power to write good English. He must also work during one year in a scientific laboratory, and he must follow instruction in history, logic, ethics, and psychology. In choosing his plan of study every student will have the counsel

of one of the Faculty as his adviser. Those who have not had the opportunity to perfect themselves in all the branches requisite for matriculation, if nearly ready, are allowed to enter and finish their matriculation at the end of their first year's residence. The usual subdivision of classes is not maintained, so that students may prolong or shorten, within certain obvious limitations, the time of their undergraduate courses; but rarely, if ever, will the course be completed in less than three years after full matriculation. Degrees are conferred at the end of the year and at other times if there are special reasons therefor. In exceptional cases, students not candidates for a degree are received as attendants upon special courses.

A special circular relating to collegiate instruction here has been printed, and will be sent on application.

Matriculation.

All who wish to be candidates for the degree of Bachelor of Arts are expected, when they enter the University, to present themselves for the matriculation examination. A student who passes in a majority of the papers set for matriculation, but fails in some subjects, will be allowed to remain a member of the University, if the examiners report that his knowledge is such that he may reasonably be expected to complete his matriculation before the end of an academic year.

A student who has not completed his matriculation in the academic year following his admission, must make a fresh application for admission to the University, for the special consideration of the authorities. If again accepted, he will be allowed to count the matriculation subjects in which he has already passed, but until completing his matriculation he will not be permitted to attend any courses of class instruction in the University.

The requirements for matriculation are as follows:

Latin. Grammar, Prosody, and Composition; *Cæsar*, 5 books; *Ovid*, 2500 verses (500 elegiac); *Vergil*, Æneid, 6 books, and Eclogues; *Cicero*, 7 orations.

Greek. Grammar, Prosody, and Composition; *Xenophon*, Anabasis, 4 books; *Homer*, Iliad, 4 books; *Herodotus*, 1 book.

Note A. The accurate reading at sight of passages previously unseen may render unnecessary the examination in the books specified.

Note B. The subjects named, in both Mathematics and Languages, merely indicate the ange of the examination. Equivalents are accepted.

Mathematics. *Arithmetic,* including the Metric system; *Algebra,* Todhunter, 38 chapters; *Geometry, Plane and Solid,* Chauvenet; *Plane Trigonometry,* Chauvenet, 8 chapters, or Wheeler; *Analytic Geometry,* Straight Line and Circle in rectangular coördinates, Salmon (Conic Sections) or Howison.

Note C. Only four-place logarithmic tables are provided or permitted to be used in the examination in Plane Trigonometry.

Note D. The examinations in Algebra and Geometry must be passed before the candidate will be examined in Trigonometry and Analytic Geometry.

Note E. A student may postpone for one year after entrance his examination in Trigonometry and Analytic Geometry, unless he is to take up at once Physics, (in which case he must show a sufficient knowledge of Trigonometry); or Mathematics, (in which case he must pass in all the required mathematical subjects).

French and German. Candidates who do not intend to pursue a classical course may offer French and German instead of Greek, and others may if they please offer French and German in addition to Greek.

There are two examinations in French and two in German for admission. The lower examination in each study is to ascertain whether the student has an elementary knowledge of the pronunciation, gender, inflections, etc.; the other examination is to see whether he can read at sight French or German prose.

Note F. To pass in French and German as substitutes for Greek, the student must be able to translate at sight one of these languages and to convert English prose into it; and to read at sight easy prose passages from the other.

Note G. The amount of German and French accepted, in any case, as a substitute for Greek at matriculation, does not count also among the courses to be registered as for graduation.

History. The outlines of the History of England and the United States.

Note H. Thompson's England and Doyle's United States are named to indicate the knowledge required.

English. Proficiency in English Grammar and Analysis, and a knowledge of the outlines of the History of the English Language are required.

Each student must further give evidence of ability to use the English Language with correctness and propriety in written composition.

Note I. Whitney's Essentials of English Grammar, and Lounsbury's History of the English Language (Introduction and first eight chapters) are recommended for use in preparation.

Bad penmanship will be regarded as a serious defect.

Experimental or Observational Science. Each candidate must pass in one of the following subjects, and he will be expected, when he applies for admission, to signify in which of these subjects he proposes to take the examination —

a. The elements of *Physics*;
b. The elements of *Chemistry* (non-metallic elements and their more simple compounds);
c. *Physical Geography;*
d. The elements of *Botany*, especially plant analysis, and the power of accurately describing a given plant;
e. The elements of *Physiology.*

College Courses.

After matriculation, the student is required to select one of the seven courses leading to the Degree of Bachelor of Arts. A schedule of these courses, with detailed statements as to the various studies, is given on subsequent pages.

Advisers.

In order that he may select his studies wisely and prosecute them systematically, and in order also that he may have a friend to consult in the perplexities which arise in the progress of an educational course, every undergraduate will, upon his entrance, be assigned by the President to some member of the academic staff, to whom he will go for advice and assistance, and through whom he will present to the Faculty any special requests.

It is expected that every Adviser will make it his business to establish relations of friendliness and confidence with the students assigned to his care. One of his first duties will be to ascertain from each of them with what special intentions and wishes he has entered the University; and then to give him advice as to the studies he should pursue, and the order in which he should attempt to complete them. As soon as these arrangements are made, the Adviser should furnish the President with a scheme of the work which the student proposes to complete with a view to graduation.

The Adviser being thus responsible for the studies taken up by the undergraduate students, and for the order in which they are to be pursued, no instructor will receive into a class any student who does not bring with him written assurance that his Adviser has considered his course as a whole, and approves his

pursuing such a study at that time. Before withdrawing from a class, the student must also confer with his Adviser and ask his consent.

Instructors who are discharging the office of Adviser to undergraduate students, will meet from time to time for conference.

Degree of Bachelor of Arts.

The degree of Bachelor of Arts is conferred upon matriculated students who have followed any of the complete courses prescribed for undergraduates, and have passed the various required examinations. Students who can pass satisfactory examinations at their entrance in any of the required branches of the selected course may be admitted to advanced standing in that course and may thus shorten the period of their residence. Usually, three or four years' study after matriculation will be requisite to the attainment of the Bachelor's degree.

Until a candidate for matriculation has completed all the work required of him for matriculation, he is not permited to take up any of the studies required for graduation, except with the written approbation of the President, on the written recommendation of his Adviser.

The degree of Bachelor of Arts has been conferred on the following persons:

1882. William Hughlett Adkins.
1881. William Wilson Baden.
1880. Thomas Milton Beadenkopf.
1882. Thomas Alexis Berry.
1882. Gustav Bissing.
1880. Allen Kerr Bond.
1881. Henry Johns Bowdoin.
1881. John Wilson Brown.
1882. Walter Bernard Clarkson.
1881. David Talbott Day.
1880. William Cathcart Day.
1882. Hermann Louis Ebeling.
1880. Henry Laurence Gantt.
1882. Louis Garthe.
1880. Edgar Goodman.
1880. Carl Eckhardt Grammer.
1881. William Henry Howell.
1882. Edward Ingle.
1880. Alexander Fridge Jamieson.
1880. Edmund Allen Jarvis.
1881. John Johnson.
1881. James Edward Keeler.
1882. Richard Fuller Kimball.
1882. Gustav Adolph Liebig.
1880. Stewart Brian Linthicum.
1880. John Hanson Lowe.
1879. George Washington McCreary.
1882. Charles William Emil Miller.
1880. Leigh Clinton Morgan.
1882. James Page.
1882. Albert Gallatin Palmer.
1879. Chase Palmer.
1880. Nelson Palmer.
1880. Thomas Pettigrew.
1882. Robert Miller Reese.
1880. Harry Fielding Reid.
1881. Edwin George Richardson.
1881. Adoniram Judson Robinson.
1881. Henry Rolando.
1881. Lee Sale.
1879. Edward Henry Spieker.
1882. Lewis Tebbetts Stevens.
1880. Wiltz Raymond Stricklen.
1882. Herbert Thorndyke Tiffany.
1881. Mactier Warfield.
1880. Lewis Webb Wilhelm. (46)

Hopkins Scholarships.

In accordance with the request of the founder of the University, twenty scholarships, called the "Hopkins Scholarships," freeing the holders from charges for tuition, were opened at the commencement of the University to young men who need this assistance. Probably an equal number will be annually bestowed.

The scholarships will be distributed among such candidates, "from the States of Maryland (including the District of Columbia), Virginia, and North Carolina, as may be most deserving of choice, because of their character and intellectual promise."

No publicity will be given to the names of those who are appointed or rejected, but a private announcement will be sent to each successful candidate.

These scholarships may be held for four years; but are liable to be forfeited because of deficiency in attainments, or of unworthy conduct.

The holders of these scholarships will not be exempt from the special charges made in the laboratories, etc.

Honorary Hopkins Scholarships.

In addition to the scholarships above named, eighteen Honorary Hopkins Scholarships have been instituted for the encouragement of conspicuous merit among undergraduate students who regularly matriculate.

Six of these scholarships will be annually offered to such candidates "from the States of Maryland, Virginia, and North Carolina, as may be most deserving of choice, because of their character and intellectual promise." Two scholarships will be offered annually to candidates from each of the States named.

The value of each scholarship will be $250 per annum and free tuition; and in case the holder of a scholarship withdraws from the University, for any reason, during the course of a session, such part of the allowance will be paid as seems equitable to the executive committee. The selection of candidates will be made by the Board of Advisers of Collegiate Students, at the beginning of each academic year, and publicly announced as honors. The same person may hold a scholarship for three years, if he

continues to show himself worthy, but the question of his reappointment shall annually be decided by the appointing board.

Young men who desire to offer themselves as candidates for these scholarships should state this fact in writing when they appear for examination at the matriculation in June or in September. The papers of such candidates will then be carefully scrutinized by the examiners and the appointments announced.

A scholarship, given by a friend of the University, yielding one hundred dollars and free tuition, was awarded in 1880, 1881, and 1882, to that graduate of the Baltimore City College who passed the best matriculation examination on his admission to the University. No provision has been made for its continuance.

HOLDERS OF THE BALTIMORE CITY COLLEGE SCHOLARSHIP.

1880. Charles William Emil Miller, of Baltimore.
1881. Gonzales Lodge, of Baltimore.
1882. James Albert Loane, of Baltimore.

Examinations.

The University provides four Examinations:

1. *Preliminary.* In this it is intended to ascertain, by informal methods varying with the peculiarities of each case, whether a student, who wishes to enter classes in the University, is fitted by age, character, and acquirements to profit by the advantages here offered. Candidates resident in Baltimore should call on the President, who will decide in each case what is the next step to take. To persons living at a distance blank forms of application will be forwarded, on the return of which properly filled out, the applicants will receive advice as to the expediency of their coming to Baltimore.

2. *For Matriculation.* This regular examination is held at the beginning and at the close of each academic year, and must be satisfactorily passed by all who wish to study for the degree of Bachelor of Arts. It is intended to give assurance to the University that such candidates have pursued successfully those studies in Languages, Mathematics, and Science which are recognized as fundamental. The examinations for entrance to the Course Preparatory to the Study of Medicine are held at the same time as the matriculation examinations.

3. *For the Baccalaureate Degree.* The bestowal of this degree implies that the person on whom it is conferred has received a comprehensive and prolonged training in the liberal arts and in science, with a tendency to concentration on certain departments. The University is therefore particularly careful to inform itself thoroughly as to the progress of each student. To this end :

(*a*) each Instructor is expected, in his own way, to watch closely the progress of his class, and to admonish those who are in any way behindhand or negligent.

(*b*) each Instructor is required to make (at least twice in the academic year) a written report of the standing of each member of his classes; this report being based partly on his observation of the work done in the lecture-room or laboratory, and partly on the result of formal examinations which he has conducted.

(*c*) at the close of each academic year the University holds an examination of all classes on the studies of the year; for this purpose it not only avails itself of the services of its resident staff of Instructors but invites the aid and cooperation of recognized specialists, as paid examiners.

The reports of all these examinations are carefully recorded and preserved ; and the degree of Bachelor of Arts is conferred when the records show that a prescribed amount of work has been satisfactorily completed.

4. *For the Degree of Doctor of Philosophy and Master of Arts.* The object of this examination is to ascertain whether a candidate after having received the Baccalaureate degree has made such attainments and exhibited such proficiency in some special lines of prolonged scientific work as to entitle him, according to the usage of the best Universities, to receive this highest degree. A part of the evidence of such competence always exacted is the preparation of a thesis on some portion or aspect of the main line of the candidate's work, for the criticism of which essays the services of non-resident examiners are often invited. (See p. 27).

University Societies.

There are several societies of a scientific or literary character, composed of the instructors and advanced students of the University. Six of these associations are of general interest and importance, and meet monthly for the presentation of scientific and literary papers. Abstracts of some of the more important communications are given in the University Circulars.

1. The Scientific Association, meeting under the presidency of Professor Sylvester.
2. The Philological Association, meeting under the presidency of Professor Gildersleeve.
3. The Mathematical Society, of which Professor Sylvester is the director.
4. The Historical Association, of which Dr. H. B. Adams is the secretary.
5. The Metaphysical Club, of which Professor G. S. Morris is the head.
6. A Naturalists' Field Club, organized under the leadership of Professor Martin, which makes weekly excursions during the spring and autumn and holds regular meetings for the presentation and discussion of papers.

There are also companies which meet weekly in the laboratories for the reading of the scientific journals.

Public Lectures.

In order to extend the educational influence of the University, courses of lectures have been opened to the public on certain conditions, admission being granted first to members of the University and then to teachers and special students of the subjects announced. The teachers of the public and private schools have, in large numbers, attended some of these courses. The attendance of students has been voluntary. The lectures have been of an academic and not of a popular character, but they are regarded as supplementary and not as essential to the regular courses of instruction.

During the year 1882–83, the following courses of lectures were given :

1. On the Greek of the New Testament and the Early Fathers, by Mr. J. Rendel Harris, six lectures, with an average attendance of 73.

2. On the Eddas and other Old Norse Literature, by Dr. William H. Carpenter, Fellow by Courtesy, twelve lectures, with an average attendance of 122.

3. On the Epistle to Diognetus, by Mr. J. Rendel Harris, five lectures, with an average attendance of 58.

4. On French and German Socialism, by Dr. R. T. Ely, six lectures, with an average attendance of 117.

5. On Etchers and Etching, by F. Seymour Haden, F. R. C. S., England, three lectures, with an average attendance of 222.

6. On Michel Angelo, by W. W. Story, Esq., of Rome, one lecture, with an attendance of 260.

7. On Philosophy and Christianity, by Professor George S. Morris, eight lectures, with an average attendance of 137.

8. On Poetry, as an Embodiment of the Spiritual and an Interpretation of Life, by Professor Hiram Corson, of Cornell University, ten lectures, with an average attendance of 202.

9. On Anglo-Saxon Poetry, by Professor James A. Harrison, of Washington and Lee University, ten lectures, with an average attendance of 100.

10. On the Principles and Methods of Intellectual Training, by Dr. G. Stanley Hall, eight lectures, with an average attendance of 191.

11. On the Relations of Literature to Modern Society, by Mr. George W. Cable, of New Orleans, six lectures and one reading, with an average attendance of 225.

12. On the Early French Chroniclers of the Crusades, by Dr. Bernard F. O'Connor, Fellow by Courtesy, six lectures, with an average attendance of 63.

13. On French Literature, by M. Rabillon, two courses (in the French language), including twenty-two lectures, with an average attendance of 37.

These thirteen courses included 104 lectures. The average attendance upon the lectures (not including those given in the French language) was 148.

Publications.

Six scientific journals are published under the auspices, or with the aid of the University.

1. The American Journal of Mathematics, published quarterly under the editorial control of Professor Sylvester. Four volumes of about four hundred pages, quarto, each, have been issued, and the fifth is in progress.

2. The American Chemical Journal, published six times in the year, under the editorial control of Professor Remsen. Four volumes, of about four hundred and sixty pages each, have appeared, and the fifth is in progress.

3. The American Journal of Philology, edited by Professor Gildersleeve, and appearing four times a year. Three volumes

of about five hundred and fifty pages each, have been issued, and the fourth is in progress.

4. The Studies from the Biological Laboratory, of which the editorial supervision is in the hands of Professor Martin, with the coöperation of Dr. Brooks. The first four numbers have been collected into a volume of five hundred pages, with forty plates, and the last number of the second volume is now in press.

5. Studies in Historical and Political Science, of which Dr. H. B. Adams is the editor, appearing monthly. The first series will consist of twelve numbers of about four hundred pages in all. Eight numbers have already appeared.

6. The Journal of Physiology, of which Dr. Michael Foster, of Cambridge, England, is the Editor-in-Chief, published in America with the aid of the Johns Hopkins University.

The official publications of the University are:

1. An Annual Report presented by the President to the Board of Trustees, reviewing the operations of the University during the past academic year.

2. The University Circulars, issued from time to time, giving current information as to the work here in progress or proposed.

3. A Register, giving the list of the officers, academic staff, and students, and containing detailed statements as to the regulations and work of the University.

Announcements of proposed lectures, courses of instruction, etc., appear in the University Circulars, or are separately issued as Programmes from time to time.

Charges for Tuition, etc.

The charge for tuition is eighty dollars per year payable in two sums, forty dollars on the first of October, for the first half-year, and forty dollars on the first of February, for the second half-year. The Treasurer's office is not authorized to make a deduction for a period less than half a year, or to make a deduction because the student gives only a part of his time to study, or because he belongs to but one class.

Charges for materials, instruments, breakage, etc., are made in the laboratories.

Upon entering the University and before attending any class all students (*including the Fellows and the holders of Scholarships*) are required to deposit with the Treasurer the sum of ten dollars each. This sum will be repaid when the student withdraws from the University, if there are no charges against him in the Treasurer's office, the Library, the Laboratories, or elsewhere.

Holders of Fellowships and Scholarships are not charged the general tuition fee for the next half-year after the date of their appointment. Holders of Scholarships are charged the fees for material, etc , made use of in the Laboratories.

Chemical Laboratory.—Workers in the Chemical Laboratory will be charged twenty dollars for the year, or ten dollars for the half-year (in addition to the general tuition fee, which is eighty dollars,) for gas, chemicals, etc. From this charge Fellows only are exempt.

A charge will also be made, at the end of each year, against all (including Fellows) who work in the Laboratory, for apparatus taken from the Laboratory stock and not returned in good condition.

Those who merely attend the annual course of Chemical lectures and have no other connection with the University, will pay for this privilege the sum of twenty dollars.

Biological Laboratory.—The fees for work in the Biological Laboratory are—

1. To undergraduate students, whether matriculates or not, taking the regular courses of instruction in Biology, there will be charged (in addition to the general tuition fee, which is eighty dollars,) twenty dollars, for material and the use of apparatus.

2. To medical men, graduate students, and others taking only the annual course of instruction in Animal Physiology, with the corresponding laboratory practice, fifty dollars, which includes payment for material and the use of apparatus.

3. For a course of practical instruction in Histology (including material and the use of apparatus), twenty-five dollars.

4. Students engaged in investigation or special individual work will be charged twenty dollars for the use of instruments, etc., and be required to pay for any material used except the usual histological and chemical reagents.

5. Those who merely attend the annual course of Biological lectures and have no other connection with the University will pay for this privilege the sum of twenty dollars.

Board and lodging in private houses near the University, including care of room, fuel, and light, may be obtained at five or six dollars, and upwards, per week.

Time of Admission.

The proper time for entrance is at the beginning of the academic year, when there are formal appointed examinations.

Informal preliminary examinations may be held from time to time, by mutual agreement between the President and the candidate, for the purpose of ascertaining whether a student should be encouraged to present himself for the matriculation examination, and of giving him counsel as to the progress of his studies. To persons at a distance, blank forms of application will be forwarded, upon the return of which, properly filled out, the candidates will be advised as to the expediency of their coming to Baltimore.

The formal examinations for matriculation in 1883 will be held from June 4 to June 8, and from September 18 to September 22, as follows:

Monday, June 4.	
ALGEBRA,	9—12.
GEOMETRY,	3—6.
Tuesday, June 5.	
TRIGONOMETRY,	9—12.
ANALYTIC GEOMETRY,	3—6.
Wednesday, June 6.	
LATIN,	9—12.
GREEK,	3—6.
Thursday, June 7.	
GERMAN,	9—12.
FRENCH,	3—6.
Friday, June 8.	
ENGLISH,	9—10.30.
HISTORY,	11—12.30.
NATURAL SCIENCE,	3—4.30.

Tuesday, September 18.	
ALGEBRA,	9—12.
GEOMETRY,	3—6.
Wednesday, September 19.	
TRIGONOMETRY,	9—12.
ANALYTIC GEOMETRY,	3—6.
Thursday, September 20.	
LATIN,	9—12.
GREEK,	3—6.
Friday, September 21.	
GERMAN,	9—12.
FRENCH,	3—6.
Saturday, September 22.	
ENGLISH,	9—10.30.
HISTORY,	11—12.30.
NATURAL SCIENCE,	3—4.30.

Candidates may offer some of the subjects at the June examinations, and the others in September.

Students resident in and near Baltimore are advised to present themselves at the examination in June, so that if deficient in any

study they may prepare themselves in it for the examination in September. The results of the matriculation examinations will be made known June 9 and September 25.

Calendar.

The present term closes Friday, June 8, 1883.

The examinations for admission will be held from June 4 to June 8, and from September 18 to 22 as above stated.

The next term will begin Tuesday, September 18, 1883.

The first week is devoted to the examination of candidates for admission and matriculation, and to the organization of classes. It is expected that all the officers of instruction and government will be here during this period.

Instructions will be resumed Tuesday, September 25, 1883.

The term of instruction closes on Friday, June 7, 1884.

There will be a brief recess at the Christmas holidays and also in the early Spring.

Friday, February 22, 1884, will be observed as Commemoration Day.

COLLEGE COURSES.

Detailed Statements as to the Various Studies.

[*See Tabular Statement of College Courses.*]

STUDIES REQUIRED OF ALL.

1. *English.* Undergraduate students are required to hand in at appointed times essays on which the instructor comments. All the elements of good writing are considered in his criticisms, the object being not merely to correct errors but to help the student to an easy and sure mastery of expression and form. There are also frequent meetings of a class for reading works by the best masters of modern English. The authors chosen during the past year have been Burke, Fitz-James Stephen, and Defoe. To illustrate more free, graceful, idiomatic styles, selections have been read from Thackeray, De Quincey, Ruskin, and George Eliot.

2. *French and German.* Unless the entrance examination in these subjects has been passed, the student, early in his course, must learn to read ordinary French and German prose at sight. In many of the advanced studies, text-books in these languages are made use of.

3. *Physical Geography.* A short course of study, illustrated by maps and diagrams, will be given with reference to the wants of historical students, as well as of those devoted to natural history.

4. *Ancient History.* Lectures and exercises are given on the history of ancient life,— especially on Greek and Roman History.

5. *Logic, Ethics, and Psychology.* An elementary course will be given in these subjects, occupying the student one year and calling his attention to the fundamental principles of mental and moral philosophy.

6. *Physical Culture, Vocal Culture, Drawing, and Theory of Accounts.* All undergraduate students will pay attention to this group of subjects and attain that degree of proficiency in respect to them which is indispensable to a liberal education.

Some young men come up to the university so well trained that they do not require further instruction in one or more of these subjects. Others need prolonged discipline. The university endeavors as far as possible to adapt its instruction in these branches to the requirements of individuals, and certificates of a reasonable amount of attention to these subjects must be secured before the candidate is graduated.

TABULAR STATEMENT OF COLLEGE COURSES.

I. For Matriculation.

The matriculation examination includes Greek, Latin, Algebra, Geometry, Trigonometry, and Analytic Geometry, — with the History of England and the United States, English, and Elementary Science. French and German may be substituted for Greek by those who wish to follow scientific courses. See page 35.

II. Required Studies.

I.
ENGLISH COMPOSITION.
ENGLISH LITERATURE.

II.
GERMAN.
FRENCH.

III.
CHEMISTRY, or
PHYSICS, or
BIOLOGY.

IV.
LOGIC.
ETHICS.
PSYCHOLOGY.

V.
PHYSICAL GEOGRAPHY.
ANCIENT HISTORY.

VI.
DRAWING.
VOCAL CULTURE.
PHYSICAL CULTURE.
THEORY OF ACCOUNTS.

VII.
CERTAIN PRESCRIBED LECTURES IN SCIENCE AND LITERATURE.

III. Elective Studies.

I. Latin.

1883-4.

(*Daily, two years*).

I.
Livy.
Horace.
Prose Composition.
Private Reading.

II.
(*a*)
Lucretius.
Plautus.
Tacitus.
Reading at Sight.
Prose Composition.

or (*b*)
Cicero, Letters.
Pliny, Letters.
Aulus Gellius.
Juvenal.
Reading at Sight.
Prose Composition.
Private Reading.

Greek.

1883-4.

(*Daily, two years*).

I.
Lysias.
Homer.
Euripides.
Prose Composition.
Private Reading.

II.
Thucydides.
Aristophanes.
Sophocles.
Prose Composition.
Private Reading.

Comparative Philology and Classical Antiquities.

Lectures.

Students who have completed the necessary work in German or French, may take up Mathematics or History.

Hours.
Latin, 9-10.
Greek, 11-12.
P. H. E., 12-1.
Latin, 10-11.
German, 11-12.
Greek, 12-1.
Chemistry. Physics. Biology. } Physics, 10-11.
French, Comp. Philology and Class. Antiquities, } 12-1
L. E. P., 1-2.

II. Mathematics.

(*Daily, two years*).

I.
Conic Sections.
Differential and Integral Calculus.

II.
Theory of Equations.
Solid Analytic Geometry.
Total Differential Equations.
Spherical Trigonometry.

Physics.

(*Daily, two years*).

I.
Elementary Mechanics.
Sound.
Heat.
Light.
Magnetism and Electricity.
Experimental Lectures.

II.
Application of Mathematics to Physical Problems.
Quantitative Work in Laboratory.
Lectures on Physical Astronomy.
Private Reading — Maxwell, Helmholtz, etc.

Students who have completed the necessary work in German or French, may take up Latin, English, or History.

Hours.
German, 11-12.
P. H. E., 12-1.
Mathematics, 1-2.
Physics, 10-11.
Mathematics, 11-12.
French, 12-1.
Chemistry, 9-10.
Physics.
L. E. P., 1-2.

III. Chemistry.

(*Daily, two years*).

I.
Non-Metals.
Metals.

II.
Chemical Philosophy.
Analytical Chemistry.
Chemistry of Carbon Compounds.

Biology.

(*Daily, two years*).

I.
General Biology.
Human and Comparative Osteology.
Elements of Comparative Anatomy.

II.
(*a*)
Animal Physiology.
Histology.
Mammalian Anatomy.

or (*b*)
Animal Morphology.
Comparative Embryology.
Mammalian Anatomy.
Marine Laboratory Work.

Students who have completed the necessary work in German or French, may take up Latin, Mathematics, or Italian.

Hours.
Physics, 10-11.
German, 11-12.
P. H. E., 12-1.
Chemistry, 9-10.
Biology, 11-12.
French, 12-1.
Chemistry, 9-10.
Biology.
L. E. P., 1-2.

IV. Physics.

(*Daily, two years*).

I.
Elementary Mechanics.
Sound.
Heat.
Light.
Magnetism, and Electricity.
Experimental Lectures.

II.
Application of Mathematics to Physical Problems.
Quantitative Work in Laboratory.
Lectures on Physical Astronomy.
Reading — Maxwell, Helmholtz, Rayleigh, Thomson, etc.

Chemistry.

(*Daily, two years*).

I.
Non-Metals.
Metals.

II.
Chemical Philosophy.
Analytical Chemistry.
Chemistry of Carbon Compounds.

Students who have completed the necessary work in German or French, may take up Latin, English, or History.

Hours.
German, 11-12.
P. H. E., 12-1.
Mathematics, 1-2.
Chemistry, 9-10.
Physics, 10-11.
French, 12-1.
Chemistry, 9-10.
Physics.
L. E. P., 1-2.

V. Latin.

(*Daily, two years*).

I.
Livy.
Horace.
Prose Composition.
Private Reading.

II.
(*a*)
Lucretius.
Plautus.
Tacitus.
Reading at Sight.
Prose Composition.

or (*b*)
Cicero.
Pliny.
Aulus Gellius.
Juvenal.
Reading at Sight.
Prose Composition.
Private Reading.

Mathematics.

(*Daily, two years*).

I.
Conic Sections.
Differential and Integral Calculus.

II.
Theory of Equations.
Solid Analytic Geometry.
Higher Plane Curves.
Spherical Trigonometry.

Students who have completed the necessary work in German or French, may take up English, History, or Greek.

Hours.
Latin, 9-10.
German, 11-12.
P. H. E., 12-1.
Latin, 10-11.
French, 12-1.
Mathematics, 1-2.
Mathematics, 11-12.
Physics or Chemistry, }
L. E. P., 1-2.

VI. History.

(*Daily, two years*).

I.
Livy.
Tacitus.
Thucydides.

II.
Early Church History.
Mediæval Empire.
Growth of Modern European States.
Renaissance.
Reformation.
Revolutions.

Political Science.

(*Daily, two years*).

I.
Political Economy (Elements).
History of Political Economy.

II.
Roman Law (Elements).
American Constitution.
English Constitution.
Constitutions of European States.
International Law.

Students who have completed the necessary work in German or French, may take up Mathematics, a Laboratory study, Spanish, or Italian.

Hours.
Classical History, 9-10.
German, 11-12.
P. H. E., 12-1.
History, 11-12.
French, 12-1.
Political Science, 1-2.
Physics. Chemistry. Biology. }
Political Science, 12-1.
L. E. P., 1-2.

VII. English.

(*Daily, two years*).

I.
Shakspeare, Chaucer, English Prose Writers.
Grammatical and Rhetorical Exercises.
Elements of English Phonetics and Language Building.
History of the English Language.

II.
Anglo-Saxon.
Early English.
Exercises in Style, Essays, etc.
Lectures on the History of English Literature.

French.*

German.

(*Daily, two years*).

I.
Historical Prose.
Scientific Prose.
German Classics.
Exercises.

II.
Middle High German.
German of XVI and XVII centuries.
Deutsche Stilübungen Prose Composition.
History of German Literature.
Reading of German Classics.

Students who have completed the necessary work in French, or the first year in German may take up Mathematics, a Laboratory course, or History.

Hours.
Latin, 9-10.
English, 11-12.
P. H. E., 12-1.
German, 11-12.
French, 12-1.
Physics. Chemistry. }
French. German. } 10-11.
English, 12-1.
L. E. P., 1-2.

Each of the courses above named leads to the degree of Bachelor of Arts.

P. H. E. means the course in Physical Geography, History, and English Literature. L. E. P. means the course in Logic, Ethics, and Psychology. * See page 57.

The foregoing schedule is based on the principle that a "year" of study means five weekly exercises extending, with the examinations, through the entire academic year.

7. There will also be from time to time accessory courses on historical, literary, and scientific subjects, so arranged that the student may be introduced to important branches of knowledge not immediately connected with his chosen line of work.

MATHEMATICS.

The undergraduate courses in Mathematics are so laid out as to give a general knowledge of methods (algebraic, analytic, and geometric), the topics studied being Theory of Equations and Determinants, Differential and Integral Calculus, Spherical Trigonometry, Conic Sections (with special reference to modern methods), Solid Analytic Geometry (Quadric Surfaces), the general theory of Higher Plane Curves, and Total Differential Equations.

The range of subjects is as wide as possible in the time allotted, only the fundamental principles of each (including applications) being taught, leaving the more complicated and technical portions to be taken after graduation. It is considered of more importance to teach methods than results, and hence great care is taken to point out the most direct and perspicuous modes of treating the problems which may arise in the various subjects. In this way the student does not become simply expert in the use of a single method, but skilful in determining how he may best solve the problems to which he is led, and it is this skill which will be most useful to him as an independent investigator.

The one year course includes Conic Sections and Differential and Integral Calculus.

PHYSICS.

In Physics, during the first year, there is —

(*a*). A course of three recitations a week throughout the year, including the study of elementary mechanics, sound, heat, light, magnetism and electricity. A satisfactory knowledge of plane trigonometry is demanded for entrance to this class.

(*b*). A course of experimental lectures, two each week throughout the year.

(*c*). Laboratory work one day each week with written report.

During the second year, there is —

(*a*). A course of lectures on the application of mathematics to physical problems throughout the year.

(*b*). Quantitative work in the physical laboratory, for not less than one day per week throughout the year, and complete reports will be required of each student.

(*c*). A course of reading approved by the instructor, upon which the student must pass satisfactory examinations.

Heretofore the courses of reading have embraced selections from the following works, one from each group being requisite:

Sound: Helmholtz.
Heat: Maxwell, Wüllner, Verdet, Tyndall.
Electricity and Magnetism: Jenkin, Wüllner, Verdet.
Light: Wüllner, Lloyd, Daguin, Jamin, Verdet.
Conservation of Energy: Youmans, and others.

CHEMISTRY.

In Chemistry, the instruction for candidates for the A. B. degree consists of daily laboratory practice, lectures, and examinations extending over a period of two years. Some previous knowledge of Chemistry is of value for students taking this course, though it is not essential.

The object is not to give special instruction in the processes of analytical chemistry but in the principles and facts of the science of chemistry as a whole. Incidentally, of course, the methods in use in analysis are taken up, but not as the chief object in view.

I.

During the first half-year the subject of work is that which is usually considered under the head of Non-Metals. There are five class-room exercises (lectures and recitations), and four laboratory exercises of two hours each, weekly. The laboratory work consists in repeating the most instructive experiments which have been performed previously in the lecture-room, and in doing such other work as may serve to impress upon the minds of the students the matters which are discussed in the lectures.

The same general plan is followed during the second half-year, the special subject being the Metals. Incidentally some elementary instruction is also given in crystallography and chemical mineralogy. The laboratory work is continued in much the same way as in the first half-year.

II.

The methods of Analytical Chemistry play a more important part in the work of the second year. It is intended that the work with these methods shall serve mainly as illustrations of the application of the knowledge of chemical facts which the student has acquired during the first year. Great care is taken to avoid a mere mechanical use of analytical tables, the student being at first encouraged to devise analytical methods without aid, using only the knowledge which he actually possesses.

During the first half of the second year, lectures are given on analytical chemistry; and there is instruction in Chemical Philosophy, a text-book being used as a guide in this subject.

During the second half of the year, there are five lectures and recitations weekly on the "Chemistry of Carbon Compounds," and it is proposed in

the future to devote some time to the laboratory study of a few typical carbon compounds.

Throughout the second year, students work in the laboratory eight hours weekly.

BIOLOGY.

Biology is especially recommended to those who intend hereafter to study Medicine.

When the undergraduate enters the Biological Laboratory, he does not at once begin the study of Botany or Zoölogy, or any subdivision of these, but gives attention during the first year to General Biology — to acquiring a general knowledge of the forms assumed and the properties exhibited by living matter. For this purpose the student commences with the study of unicellular organisms; is next carried on through a series of types selected from the higher Fungi, the cryptogamous and the flowering plants, and is finally made to examine thoroughly a specimen from each class in the animal kingdom. These types form the texts for lectures and recitations upon the general biological laws and phenomena which they are selected to illustrate; but the main work is done in the laboratory, so that the instruction has a firm practical basis, and the various technical terms are made intelligible through their illustration by the observations of the student himself. Having attained a good knowledge of a number of adult forms the student next takes up Embryology, the lectures on which are illustrated by a thorough practical study of the development of the chick; that differentiation of structure and specialization of function, which was before observed as higher and higher animals and plants were examined, he now finds repeated in the developmental history of a single one of the higher animals. During this preliminary course the student also, with the aid of a selected series of skeletons, studies the main facts in Comparative Osteology. In the second year of biological work some choice is permitted; Animal Physiology and Histology, or Animal Morphology, may be selected for more special study; it is hoped that Botany will soon be added to the list.

This undergraduate course, while primarily designed as a stepping stone for those who intend to become biologists, is at the same time complete in itself, and believed to be the form of biological instruction best adapted for those who do not expect to become either botanists, zoölogists, or physiologists, but who desire to acquire some knowledge of the methods and ideas of modern biology as one of the branches of general culture which they select among the studies leading to the baccalaureate degree, or as a preparation for entering on professional study in a medical school.

I.

The first year's work in Biology will require, between class exercises, laboratory work, and outside reading, about fifteen hours weekly of the time of a student of average ability.

a. Three class exercises weekly, with laboratory work, in General Biology, throughout the academic year.
b. Two class exercises weekly in Human and Comparative Osteology and the Elements of Comparative Anatomy, throughout an academic year.

II.

A.—Physiological Division.

In this division of the second year's course in Biology, the student acquires a knowledge of the microscopic structure of the tissues and organs of the higher animals; he is also required to perform the simpler physiological experiments when the infliction of pain is not involved; more difficult experiments or those calling for the employment of especially delicate apparatus are demonstrated to the class from time to time.

a. Three class exercises weekly in Animal Physiology and Histology, with laboratory work, throughout an academic year.
b. Two class exercises weekly on Mammalian Anatomy; the instruction in this course is accompanied by the thorough practical study in the laboratory of the Anatomy of a typical mammal.

The physiological apparatus belonging to the University is unusually good and complete; and students who follow the above course will have not only the opportunity of acquiring a knowledge of the methods of modern histological investigation, but also of the mode of using all the chief instruments employed in physiological research.

The student also examines, in great detail, the anatomy of one of the higher mammals, working in the same manner as a medical student on the human subject in the dissecting room. He thus acquires skill in dissecting and a thorough practical knowledge of the structure, arrangement, and nomenclature of the osseous, muscular, vascular, nervous, and alimentary systems in the mammalia, so that on subsequently entering the dissecting room of a medical school his necessary work will be largely reduced in amount, and he will be to a great extent ready to turn his attention at once to the technical minutiæ of Anthropotomy.

Taken in connection with the other studies of the biological course, the two years of biological undergraduate study, consisting of the first year's work with Division A of the second year's work, are especially planned with reference to those who desire a good collegiate education before entering on the study of medicine. In addition to a liberal general education, the course is designed to give the student, in the first place, a knowledge of the laws of life in general, whether exhibited in animals or plants: and secondly, a special knowledge of Mammalian Anatomy and Animal Physiology. Human Physiology is taught as a part of general physiological science, the student being left to acquire its clinical and hygienic applications as part of his medical studies proper; and, similarly, Human Anatomy is left for the medical school curriculum. It is believed that by approaching these sciences from a general scientific standpoint, the student will be best prepared for the study of pathological structure and function; and that a great advantage will result from his being able to concentrate his attention on the professional applications of the biological sciences when he enters a medical school.

The second year's work in Biology (Division A) will require, with class exercises, laboratory work, and outside reading, about fifteen hours weekly of the time of a student of average ability.

B.—Morphological Division.

a. Two class exercises weekly with practical work on Animal Morphology (including Comparative Embryology) from the commencement of the session until the end of April.
b. As in Division A.
c. Study at the Marine Laboratory of the University during two months, either after completion of the first year's course in Biology, or after the completion of *a* and *b* above, in the second year.

LATIN AND GREEK.

In Latin, candidates for the A. B. degree are required to take two years of class work with four courses of parallel private reading. The aim will be to give each student as wide a range of reading as possible in the literature of different periods. Special attention will be paid to Latin Composition, to reading Latin at sight, and to understanding Latin when read aloud. If any student is unable to take the courses of parallel reading, he may take additional courses of class work.

In Greek, undergraduates are required to take two years of class work with four courses of parallel private reading. Special attention will be paid to Greek Prose Composition, to the reading of Greek at sight, and to understanding Greek when read aloud. If any student is unable to take the courses of parallel reading, he may take additional courses of class work.

Classical Antiquities. Courses will be provided treating specially of the customs of the Greeks and Romans, their family-life, dress, amusements, military organization, etc.

Comparative Philology. Lectures will be given on Greek and Latin Grammar treated from the comparative standpoint, with an exposition of the fundamental principles of Comparative Philology.

The following courses are offered for 1883-4. The work provided for subsequent years will be arranged on a similar scheme, although the books offered will be different. Examinations on the courses in Private Reading will be held at the end of each half-year. Class courses 1 and 2 are to be taken as the first year's work, with 1*a* and 2*a* of Private Reading. The second year's work will consist of courses 3 and 4 with 3*a* and 4*a* of Private Reading. (In Latin 5 and 6 with 5*a* and 6*a* are offered as alternatives). Should any student be unable to do the Private Reading in connection with his class work, he may take the examination on Private Readings or extra courses of class work in a subsequent year.

N B.—One course of class work is in all cases considered the equivalent of two courses of parallel reading.

LATIN.

1. Livy, two books.
Four hours weekly, first half-year. Dr. Spieker.
Private Reading. (1*a*). Cicero, pro Roscio Amerino, de Senectute, de Amicitia.

2. Horace, Select Odes and Epistles.
   Three hours weekly, second half-year. Dr. Spieker.
   Select Satires.
   One hour weekly, second half-year. Dr. Warren.
   Private Reading. (2*a*). Horace, Epodes, and Carmen Saeculare; Ovid, Fasti, books i and ii.
3. Lucretius, book v. Plautus, Miles Gloriosus.
   Seven hours in two weeks, first half-year. Professor Morris.
   Reading at sight.
   Once in two weeks. Dr. Warren.
   Private Reading. (3*a*). Cicero de Natura Deorum, bk. i, de Finibus, bk. i; Terence, Andria.
4. Tacitus, Agricola, Germania, Annals, book ii.
   Four hours weekly, second half-year. Professor Morris.
   Private Reading. (4*a*). Tacitus, Dialogus De Oratore, Annals, bk. iii; Suetonius, Life of Tiberius.
5. Select Letters of Cicero and Pliny; Aulus Gellius.
   Three times weekly, first half year. Dr Warren.
   Reading at sight.
   Once weekly. Professor Morris.
   Private Reading (5*a*). Cicero ad Atticum, book i; Quintilian, book x.
6. Juvenal, Select Satires.
   Three times weekly, second half-year. Dr. Warren.
   Reading at sight.
   Once weekly.
   Private Reading. (6*a*). Martial, Select Epigrams; Seneca de Tranquillitate Animi and Apocolocyntosis.
7. Prose Composition.
   Weekly exercises in connection with each of the above courses.

GREEK.

1. Lysias, Select Orations.
   Four times weekly, first half-year. Dr. Spieker.
   Private Reading. (1*a*). Xenophon, Hellenica, i, ii.
2. Homer, Odyssey, ix–xii; Euripides, Alcestis.
   Four times weekly, second half year. Dr. Spieker.
   Private Reading. (2*a*). Herodotus, Merry's Selections.
3. Thucydides, vii.
   Four times weekly, first half-year. Professor Morris.
   Private Reading. (3*a*). Demosthenes in Timocratem.
4. Aristophanes, one play; Sophocles, Philoctetes.
   Four hours weekly, second half-year. Professor Morris.
   Private Reading. (4*a*). Euripides, Hippolytus; Aeschylus, Septem or Persae.
5. Prose Composition.
   Weekly exercises in connection with each of the above courses.

HISTORY AND POLITICAL SCIENCE.

The first year's work in History is directed to the study of the classic historians, Livy, Tacitus, and Thucydides. Courses in the Elements and the History of Political Economy must also be followed.

The field of historical study in the second year will be European History, with especial reference to Early Church History, Mediaeval Empires, the Growth of Modern States, the Renaissance and Reformation, and Modern Revolutions.

In Political Science, the Elements of Roman Law, the American Constitution, the Constitutions of England and the European States, and International Law will be taken up.

These studies will require not only the mastery of certain prescribed authors, or handbooks, but also an extensive course of outside reading, as may be recommended in individual cases, for the sake of forming habits of independent judgment and of acquiring, by the comparative method, an acquaintance with historical literature which will prove valuable in after-life. In connection with such reading, each student will be required to prepare, before graduation, at least five historical essays, satisfactory, in point of substance, to the instructor in History and, in point of style, to the instructor in English.

ENGLISH.

The work during the first year aims at making the student thoroughly and practically familiar with the resources of his native speech, both in language and literature.

The choice of older authors has been dictated by the necessity of following the historical method. Constant regard will be had, however, to living English speech, and to the best examples of it in modern authors. During the second year, the instruction will be mainly in the early periods of the language and literature. The object remains the same as during the first year, but an exact and fundamental knowledge of Anglo-Saxon and Old English will be imparted. Course *B* with its more general training may however be substituted in Anglo-Saxon for the more strictly language course *A*.

The following subjects are offered for the next academic year : —

I.

Shakspeare. Chaucer. Selections from English Prose writers.
Three times weekly.

Grammatical and Rhetorical Exercises.
Once weekly.

Elements of English Phonetics and Language Building.
Once weekly, first half-year.

History of the English Language.
Once weekly, second half-year.

II.

Either (*A*) Anglo-Saxon. *Twice weekly,*
or (*B*) Anglo-Saxon Law (Selected Texts), Antiquities, Religion, Customs, etc. *Twice weekly,*

and (with either *A* or *B*)
Old English.
Twice weekly.
Exercises in Style, Essays, etc.
Once weekly.
Lectures on the History of English Literature.
Once in two weeks.

GERMAN.

The first year aims to give a practical mastery of the language in reading and writing. The principles guiding the work of the second year have been stated in part, above, under English. During this year the study will be more distinctly historical, but, in certain cases, with the approval of the instructor, a more modern course may be selected (see below). Throughout the course constant attention will be paid to the synthetic character of German, as contrasted with the non-inflected, analytic English. An elementary knowledge is required for admission to the first year's course.

The following courses are offered for the next academic year: —

I.

1. Historical Prose.
   Dahn's *Urgeschichte der germanischen und romanischen Völker.* *Twice weekly.*
2. Scientific Prose.
   Hodges' *Scientific German* and Humboldt *in Auswahl.* *Twice weekly.*
3. Classics.
   Prose, one play; Minor Poetry. *Twice weekly.*
4. Exercises, with Whitney's Grammar.
   Weekly.

II.

5. Middle High German.
   Paul's and Weinhold's Grammars; Reading of Epic Poetry.
   Twice weekly.
6. German of the XVI and XVII centuries.
   Brant's *Narrenschiff*, Luther's "*An den Adel*," Gryphius' *Peter Squenz.* *Twice weekly* (*one half-year*).
7. *a.* Deutsche Stilübungen.
   Monthly.
   b. Prose Composition.
   Whitney's and Paul's Grammars. *Weekly.*
8. History of German Literature.
   Lectures in German, with Kluge's *Deutsche Nationallitteratur.*
   Once in two weeks.
9. Reading of German Classics (1765–1832).
   Four times weekly.

NOTE.—Students have some choice, under the direction of the instructor, in making out courses. Thus a first year's course may be made up of 1, 3, 4; of 1, 2, 4; of 2, 3, 4. A second year's course might consist of 6, 7*b*, 8, with the whole of 9, first half-year, and two hours of 9, second half-year; of 5, 6, 7*a*, 8, and two hours of 9; of 6, 7*b*, 8, 2, and three hours of 9; of 6, 7*b*, 8, 1, and three hours of 9.

FRENCH.

The undergraduate work in French is carried forward in accordance with the following schedule, during two years.

I.

Literary French.
Twice weekly.
Historical French.
Once weekly.
Scientific French.
Once weekly.
Exercises in Grammar and Composition.
Once weekly.

II.

Classical French, with Exercises in Style.
Once weekly.
Essay Writing in Modern French.
Once weekly.
Middle French (XVI century).
Twice weekly, first half-year.
Old French (XII and XIII centuries).
Twice weekly, second half-year.
Lectures on French Literature.
Once in two weeks.
General Principles of French Philology.
Once in two weeks.

COURSE PREPARATORY TO THE PROFESSIONAL STUDY OF MEDICINE.

College Course No. III (see Tabular Statement, p. 48) is especially recommended to those who intend hereafter to study medicine. This is so planned as to give to those students who follow it a liberal education equivalent to that afforded by other courses leading to the same degree.

The arrangements are such that graduate and special students may also follow the biological classes in part or in their entire range; accordingly, the student may either enter this course, as

(a) a graduate student without special examination (see p. 25); or as

(b) a matriculated student (see p. 35); or as

(c) a special student, upon passing examinations in the following subjects.

ENTRANCE EXAMINATION FOR SPECIAL STUDENTS TO COURSE PREPARATORY TO MEDICINE.

Elementary Mathematics. Arithmetic; Algebra; three books of Euclid, or an equivalent amount of Geometry; Plane Trigonometry, and the use of Logarithms.

The examination in Algebra will be confined to the following: definitions and explanations of algebraical signs and terms; addition, subtraction, multiplication, and division of algebraical quantities; ratio, proportion, and variation; simple equations involving not more than two unknown quantities.

Latin. Translation of passages from the first four books of Cæsar, *De Bello Gallico*, and from the sixth book of the Æneid; the elements of Latin Grammar, especially Accidence.

Candidates who obtain permission at least a fortnight previously, will be allowed to offer themselves for examination in equivalent portions of other Latin classics.

English. Candidates will be examined in the whole of Lounsbury's History of the English Language, and will be required to satisfy the examiner, by means of a written composition, of their ability to express themselves in correct and idiomatic English, properly spelled, punctuated, and divided into paragraphs.

Physical Geography. Guyot's Physical Geography and Huxley's Physiography are recommended as text books.

French and German. In addition to the above subjects, candidates may offer themselves for examination in French and German; those who pass will be excused from attendance upon the instruction in these languages during the subsequent course of study.

The examination in French and German will test the candidate's knowledge of the elements of the grammar of those languages, and his ability to translate at sight easy passages from prose authors.

Drawing. Some knowledge of Drawing is very desirable; students who are proficient in this subject may omit it from the subsequent course.

The examinations for entrance in 1883 will be held on the same days as the matriculation examinations, (from June 4 to 8, and from September 18 to 22). (See p. 46.)

After entrance the student will follow the line of study prescribed in Course III; the principal studies being Physics (see p. 49), Chemistry (see p. 50), and Biology (see p. 51).

INDEX TO LISTS OF NAMES.

Page.

Adams, H. B 4, 31
Adams, H. C.....27, 31
Adkins, W. H... 38
Alexander, W. J.....7, 33
Allinson, F. G.....27, 31
Anderson, T 15
Anderson, W. A..... 8
Augell, F..... 8
Applegarth, A. C..... 12
Arnolt, W. M..... 8
Artz, C. W.. 12
Ayres, B..... 31
Baden, W. W..... 38
Baker, W. S. G..... 15
Barnes, E..... 8
Bayley, W. S..... 12
Beadenkopf, T. M.....8, 38
Bemis, E. W..... 8
Berry, T. A..... 38
Bevan, W. L..... 13
Bevier, L.....27, 31
Beyer, H. G..... 8
Bissing, G.....8, 33, 38
Bland, J. C..... .. 8
Bloomfield, M.....4, 27, 31
Bond, A. K 38
Boston, J. G..... 13
Bowdoin, H. J..... 38
Boyd, W. S..... 8
Brace, D. B..... 8
Bright, J. W.....5, 28, 31
Brooks, W. K..... .....4, 31
Brown, G. W..... 2
Brown, J. W. 38
Browne, W. H..... 4
Buckler, T. H..... 15
Burgess, E. S..... 31, 33
Burney, W..... 31
Burt, B. C..... 31
Cable, G. W..... 4
Caldwell, H. W..... 8
Campbell, J. P..... 13
Canfield, W. B..... 13
Carey, G. G..... 13
Carpenter, W. H..... 6
Carroll, J. H..... 13
Cattell, J. M..... 7
Clark, X..... 33
Clarke, S. F.....28, 31
Clarkson, W. B..... 38
Coale R. D 5, 28, 31
Cole, T. L..... 15
Collins, A. T..... 15
Collins, J. V..... 8
Colton, B. P..... .....8, 33
Comstock, W. J..... 31
Conn, H. W 8
Converse, J. H..... 15
Corson, H..... 4
Councilman, W. T..... 6
Craig, T..... .....5, 28, 31
Cromwell, W. K..... 13

Page.

Crowe A. D..... 9
Crum, C. W. R..... 13
Crutchfield, E. L..... 13
Cumming, W..... 13
Davis, E. W.....7, 33
Day, D. T..... .....7, 38
Day, W. C.....7, 33, 38
Derby, S. C..... 33
Dewey, J..... 9
Dewitt, W. R..... 13
Dobbin, G. W..... 2
Donaldson, F..... 9
Donaldson, H. H..... 7
Dorsey, D. B..... 15
Duggan, J. R.....9, 33
Duncan, L..... 9
Durfee, W. P..... 7
Ebeling, H. L..... 38
Egge, A. E..... 9
Elliott, A. M..... 5
Elliott, J. P..... 2
Ely, G. S..... 7
Ely, J. S..... 9
Ely, R. T..... 5
Emerson, A..... 7
Evenson, G. A..... 9
Faerber, J. I..... 15
Fahlberg, C..... 31
Fay, E. A..... 28
Fels, M..... 13
Fifield, L. B..... 9
Fink, J. A..... 15
Finley, J. P..... 6
Fisher, J. A..... 9
Fleming, W. S.....7, 33
Fletcher, L. B.....28, 31
Franklin, F.....5, 28, 31
Freeman, S. H 31
Frick, C..... 13
Friedenwald, H..... 13
Frothingham, A. L..... 7
Gantt, H. L.....33, 38
Garner, S..... 28
Garrett, J. W..... 2
Garthe, L.....9, 38
Gates, W. E..... 13
Gilbert, P. C..... 13
Gildersleeve, B. L..... 3
Gillespie, J. H..... 9
Gilman, B. I.....6, 31
Gilman, D C 3
Gittings, D. S..... 13
Glenn, J., Jr..... 13
Glenn, W. L..... 13
Goodman, E.....12, 38
Goodnow, H. R..... 7
Gordon, B. B..... 13
Gore, J. W..... 31
Gould, E. R. L..... 7
Grammer, C. E..... 38
Gregg, M..... 15
Guard, W. J..... 13

Page.

Gwinn, C. J. M..... 2
Haden, F. S..... 4
Hall, C. C..... 9
Hall, E. H..... 28, 31
Hall, G. S..... 4
Hall, L. B..... 31
Halsted, G. B.....28, 31
Harding, E. C..... 31
Harding, R 9
Harlan, W. B..... 13
Harris, J. R..... 4
Harrison, J. A..... 4
Hart, E.....28, 31
Hartwell, E. M.....5, 28, 31
Hastings, C. S..... 5
Hathaway, A. S..... 7
Haupt, P..... 3
Hebden, E..... 12
Hemphill, C. R..... 31
Hering, D. W..... 31
Hillyer, H. W..... 9
Hinkley, J..... 14
Holstad, A..... 9
Hopkins, L. N..... 2
Howard, C. H..... 14
Howe, C. S..... 9
Howell, W. H.....8, 33, 38
Huggins, L. M..... 14
Iles, M. W..... 31
Ingle, E 9, 38
Irby, J. R. McD..... 31
Jacques, W. W.....28, 31
Jagemann, H. C. G.....9, 33
Jameson, J. F....5, 28, 31, 33
Jamieson, A. F..... 38
Jarvis, E. A..... 38
Jastrow, J..... 9
Jenkins, O. P..... 9
Johnson, J.....12, 38
Johnson, R. W..... 9
Johnston, C. Jr..... 10
Johnston, R. C..... 14
Jones, J. C 10
Keeler, J. E... 38
Keiser, E. H 8
Kemp, G. T..... 14
Kimball, A. L..... 8
Kimball, R. F..... 38
King, F. T..... 2
Koyl, C. H.....8, 33
Kuhara, M.....28, 31
Laessig, J. H..... 16
Lanman, C. R..... 31
Lee, F. S..... 10
Liebig, G. A.....10, 38
Liebig, R. A..... 14
Linthicum, S. B.....12, 38
Loane, J. A.....14, 40
Lodge, G.....14, 40
Lord, J. D..... 14
Lord, J. W..... 15
Lowe, J. H..... 38

Page.

Lyons, W. P. 14
MacClintock, J. 10
MacClintock, W. D. 33
Mackenzie, J. N. 10
Mahon, O. L. 16
Mahon, R. W. 28
Marcou, P. B. 6
Marquand, A. 28, 31
Martin, H. N. 3
McCay, A. H. 16
McCreary, G. W. 38
McCurdy, I. P. 10
McDaniel, C. T. 16
McLane, A. 14
Means, D. McG. 31
Merryman, C. G. 16
Miller, C. W. E. 10, 33, 38, 40
Miller, E. G. 14
Mills, T. W. 6
Mitchell, O. H. 28, 31
Mitsukuri, K. 28, 31
Morgan, L. C. 38
Morrill, P. 10
Morris, C. D. 3
Morris, G. S. 4
Morrison, J. W. 16
Morse, H. N. 5, 32
Murray, D. M. 12
Murray, J. S. 10
Mussey, W. L. 15
Nachtrieb, H. F. 10
Newell, H. 6
Nichols, E. L. 32
Nicolassen, G. F. 28, 32
Nixon, H. B. 10
Norwood, C. C. 33
Noyes, W. A. 28, 33
O'Connor, B. F. 6, 28, 32
Orndorff, W. R. 14
Osborn, H. L. 6, 32
Ott, I. 32
Page, J. 10, 38
Page, W. H. 32
Palmer, A. G. 10, 38
Palmer, C. 28, 32, 33, 38
Palmer, N. 38
Patten, J. O. 16
Pease, E. M. 10
Peirce, C. S. 4
Penniman, G. D. 14
Pennington, C. 10
Perkins, C. A. 10, 33
Perkins, W. H. 14

Page.

Perry, H. M. 32
Pettigrew, T. 38
Piggott, C. 10
Pillsbury, J. H. 12
Pleasants, J. 14
Pleasants, J. H. 2
Pratt, W. S. 32
Prentiss, R. W. 32
Preston, E. D. 32
Pund, F. 16
Rabillon, L. 4
Raddatz, C. F. 5
Ramage, B. J. 10, 33
Reese, R. M. 38
Reid, H. F. 6, 32, 33, 38
Remsen, I. 3
Rice, H. J. 32
Rich, A. M. 16
Richardson, E. G. 38
Roberts, B. T. 16
Robertson, F. L. 10
Robinson, A. J. 10, 38
Rolando, H. 38
Rose, J. C. 12
Rowland, H. A. 3
Royce, J. 28, 32
Russell, T. 10
Ryttenberg, M. R. 14
Sale, L. 38
Savage, A. D. 32
Scaife, W. B. 11
Schimper, A. F. W. 32
Schubart, L. H. 11
Schuermann, W. H. 11
Scott, R. P. 16
Sedgwick, W. T. 5, 28, 32
Sewall, H. 28, 32
Sewall, W. D. 11
Shinn, C. H. 16
Short, H. A. 6
Sieber, J. 11
Sihler, C. 28, 32
Sihler, E. G. 28, 32
Smith, A. P. 2
Smith, N. R. 15
Sollers, B. 12
Spieker, E. H. 6, 28, 32, 33, 38
Steiner, H. 14
Stevens, L. T. 11, 33, 38
Stewart, C. M. 2
Stokes, G. C. 14
Stokes, H. N. 8, 33
Story, W. E. 5

Page.

Stout, J. E. 11
Stratton, W. E. 14
Stricklen, W. R. 38
Stringham, W. I. 28, 32
Sudduth, H. T. 11
Swann, E. 16
Sweet, W. I. 11
Swift, M. I. 6, 32
Sylvester, J. J. 3
Taber, H. 11
Thayer, W. C. 33
Thomas, H. M. 15
Thomas, J. C. 2
Thomas, W. J. 16
Tiffany, H. T. 11, 38
Tolman, A. H. 11
Tuttle, A. H. 7
Tyler, J. M. 12
Uhler, P. R. 5
Van Velzer, C. A. 32
Van Vorst, F. B. 32
Veblen, A. A. 11
Voorhees, H. 32
Walz, W. 16
Warfield, M. 38
Warren, H. C. 11
Warren, M. 5
Webb, W. R. 11
Wells, B. W. 32
Wheeler, A. W. 32
Wheeler, J. H. 32
White, F. 2
Wiegand, H. H. 16
Wiggins, B. L. 7
Wilhelm, L. W. 11, 33, 38
Wilkens, F. H. 14
Williams, F. R. 11
Williams, G. H. 7
Williams, H. W. 14
Williams, W. H. 11
Wilson, E. B. 7, 28, 32
Wilson, H. V. 15
Wilson, J. M. 12
Winslow, F. 12
Witzenbacher, W. J. 15
Wood, A. 11
Wood, H. 5
Woodworth, C. L., Jr. 6
Wright, C. B. 11
Yager, A. 11
Yonce, G. V. 11
Young, A. V. E. 32
Zweizig, J. H. 11

CONTENTS.

PAGES.

Register of Officers, Instructors, and Students, - - - - - - 1–18
- Trustees, - - - - - - - - - - - - - - - - - 2
- Academic Staff - - - - - - - - - - - - - - - - 3–6
- Fellows by Courtesy, - - - - - - - - - - - - - - - 6
- Fellows, - - - - - - - - - - - - - - - - - 7
- Graduate Students, - - - - - - - - - - - - - - - 8–12
- Matriculates, - - - - - - - - - - - - - - - - 12–15
- Non-Matriculates, - - - - - - - - - - - - - - - 15–16
- Summary, - - - - - - - - - - - - - - - - - 17
- Classification of Students by Residence and Place of Graduation, - - - 18

Introductory Statements, - - - - - - - - - - - - 19–23
- Principles of Organization, - - - - - - - - - - - - 19
- Laboratories and Library, - - - - - - - - - - - - - 20–21
- Libraries and Collections of Baltimore and Washington, - - - - - - 22
- General Classification of Students, - - - - - - - - - - - - 23

Admission of Students, - - - - - - - - - - - - - 24–25
- Graduates, - - - - - - - - - - - - - - - - 24
- Matriculates, - - - - - - - - - - - - - - - - 24
- Non-Matriculates, - - - - - - - - - - - - - - - 24
  - Course Preparatory to Medicine, - - - - - - - - - - - 24
  - Special Students, - - - - - - - - - - - - - - - 25
  - Attendants upon Lectures, - - - - - - - - - - - - 25

University Instruction, - - - - - - - - - - - - - 25–33
- General Statements, - - - - - - - - - - - - - - 25
- Degree of Doctor of Philosophy, - - - - - - - - - - - - 27
  - Degrees Conferred, - - - - - - - - - - - - - - 27
- Fellowships, - - - - - - - - - - - - - - - - 28–32
  - Object of the Foundation, - - - - - - - - - - - - 28
  - Regulations, - - - - - - - - - - - - - - - 30
  - Holders of Fellowships, 1876–82, - - - - - - - - - - 31
- Graduate Scholarships, - - - - - - - - - - - - - - 32
  - Holders of Graduate Scholarships, - - - - - - - - - 33

Collegiate Instruction, - - - - - - - - - - - - - 34–38
- General Statements, - - - - - - - - - - - - - - 34
- Matriculation, - - - - - - - - - - - - - - - - 35
- College Courses, - - - - - - - - - - - - - - - 37
- Advisers, - - - - - - - - - - - - - - - - - 38
- Degree of Bachelor of Arts, - - - - - - - - - - - - - 38
  - Degrees Conferred, - - - - - - - - - - - - - - 38

Hopkins Scholarships, - - - - - - - - - - - - - - 39
- Honorary Hopkins Scholarships, - - - - - - - - - - - - 39

Examinations, - - - - - - - - - - - - - - - - 40, 41
Preliminary, - - - - - - - - - - - - - - - - 40
Matriculation, - - - - - - - - - - - - - - - - 40
Baccalaureate, - - - - - - - - - - - - - - - - 41
Final, - - - - - - - - - - - - - - - - - - 41

University Societies, - - - - - - - - - - - - - - - 42

Public Lectures, - - - - - - - - - - - - - - - - 42

Publications, - - - - - - - - - - - - - - - - - 43
Scientific Journals, - - - - - - - - - - - - - - - 43
Official Publications, - - - - - - - - - - - - - - 44

Charges for Tuition, etc., - - - - - - - - - - - - - 44
Cost of Board, etc., - - - - - - - - - - - - - - 46

Time of Admission, - - - - - - - - - - - - - - - 46
Dates of Examination in 1883, - - - - - - - - - - - - 46

Calendar, - - - - - - - - - - - - - - - - - - 47

Tabular Statement of College Courses, - - - - - - - - 48
Detailed Statements as to the Various College Studies: - - - 48–57
Studies Required of All: - - - - - - - - - - - - - -
English; French and German; Physical Geography; Ancient History; Logic, Ethics, and Psychology; Physical Culture, Vocal Culture, Drawing, and Theory of Accounts; Accessory Courses of Lectures, - - - - - - - - 48
Mathematics, - - - - - - - - - - - - - - - - 49
Physics, - - - - - - - - - - - - - - - - - - 49
Chemistry, - - - - - - - - - - - - - - - - - 50
Biology, - - - - - - - - - - - - - - - - - - 51
Latin and Greek, - - - - - - - - - - - - - - - - 53
History and Political Science, - - - - - - - - - - - - 54
English, - - - - - - - - - - - - - - - - - - 55
German, - - - - - - - - - - - - - - - - - - 56
French, - - - - - - - - - - - - - - - - - - 57

Course Preparatory to the Professional Study of Medicine, - - 57
Entrance Examination, - - - - - - - - - - - - - - 58

Index to Lists of Names, - - - - - - - - - - - - - 59, 60

[Issued June 11, 1883.]

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